

SCIENTIFIC, MEDICAL, AND TECHNICAL BOOKS

PUBLISHED IN THE
UNITED STATES OF AMERICA

*A Selected List of Titles in Print
with Annotations*

SECOND SUPPLEMENT
BOOKS PUBLISHED 1949-1952

EDITED BY R. R. HAWKINS

CHIEF OF THE SCIENCE AND TECHNOLOGY DIVISION
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OF AMERICAN SCIENTIFIC AND TECHNICAL BOOKS

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PREFACE

THE purpose of this bibliographical series is to supply descriptions of the outstanding scientific, medical and technical books written by citizens of Canada and the United States of America, published in the U S A., and available for both domestic and foreign distribution. Its origins are fully described in the Preface to the first volume published in 1946 under the title "Scientific, Medical and Technical Books Published in the United States of America 1930-1944 a Selected List of Titles in Print, with Annotations" edited by R. R. Hawkins."

A primary motive in the establishment of the series was the furthering of cultural relations between the United States of America and other nations. Experience with the first volume and its supplement has shown that the series has considerable usefulness in our own country as well as in foreign countries. The original work represented a selection from books published during fifteen years, 1930-1944. The first supplement, published in 1950 provided a selection of books published in original or substantially revised editions during the years 1945-1948. This second supplement describes a selection of books published in original or substantially revised editions during the years 1949-1952.

The scope in regard to kinds of publications is the same as in the 1930-1944 and 1945-1948 compilations. Again, books published in regular book trade channels predominate. Monographs, symposia and papers published by American scientific and technical societies are included, but these are not so fully presented as trade books primarily because many such publications are printed for members of the publishing society and for exchange with other societies rather than for general distribution. A selection of documents published by the National Government is included, but the publications of state and local governments are not represented, except for books published by state university presses and distributed through established book trade channels. Manufacturer's publications except for one or two titles have been excluded. Suggestions as to other sources of information about American publications in these categories are given in the Introduction to the original volume.

The subject scope of this work is indicated in the title and in more detail in the Table of Contents. Medicine, the pure and applied sciences, and technology are covered, but there are certain exceptions. The social sciences are omitted except for certain works in such fields as nursing and psychology where some books which are listed are equally useful for sociological and technical information. A few small areas of technology for example the technical aspects of printing and allied arts are not covered at all and other semi technical fields of which gardening is an example are covered less thoroughly than such fields as electrical engineering. In these semi-technical fields the editorial policy was to include the books of good quality which were turned up in the course of work on other parts of the list but not to pursue the subjects to the extent of special research. No books are listed in the second supplement under the headings, Fire arms, Military Science or Naval Science. These topics were dropped because so much of the current literature that has research value is not available for general distribution.

Several new headings have been added. Most of them were made necessary by the appearance of a substantial body of literature on topics having little or no book literature when the earlier compilations were made. One heading—Handicrafts—has been added because there appeared to be a considerable interest abroad in the outstanding American books written for amateur craftsmen.

As in the original volume, the selection in most fields of knowledge is a liberal one. Throughout the selection process the aim has been to choose the books of merit among those which met the gross qualifications of date of publication, author's citizenship and availability. The selections on a given subject are intended to represent the books that would be available in a well-stocked American library with an active collection in that subject. The list should be viewed as one of important and useful books rather than a list of 'best' books.

Elementary and secondary school textbooks and books written on these educational levels have been excluded but well-written books for lay readers and a select number of vocational school textbooks have been included. Among these books, preference has been given to books

Scientific, Medical, and Technical Books

suitable for home reading and self-instruction. Well-established college textbooks and new texts which possess useful novel features have been included because of the usefulness of such books in libraries and to some persons no longer attending schools but no effort was made to include all or even most of the "standard" texts currently used in American colleges and universities.

Books known to be out of print when the manuscript of the first volume in our series was ready for the printer were omitted from it. Both the first and this second supplement also are primarily lists of in print books. However, because shorter periods are covered and also because of a change in the routine of sending the manuscript to press, somewhat less attention was paid to eliminating all known out-of-print books. If it was discovered that a book was not available before the manuscript description was mailed to the printer the book was dropped but if the discovery was made after the description was set in type, the type was sometimes allowed to stand. The traditional "o.p." standing for "out-of-print" therefore appears in place of the price in a few of the descriptions in this volume.

Although most American publishers cooperated wholeheartedly with the Committee and the Editor in the supplying of information and of copies of their books for examination, several ignored our requests or failed to supply examination copies. Since the editorial procedure required examination of the books, a few titles are not listed because no copy was available to the editorial staff.

The procedure of selection was as follows. As the first step the Editor and his staff read through the comprehensive *Cumulative Book Index* and selected lists such as *United States Quarterly Book List*, *Science News Letter* and *New Technical Books* and made out slips for all of the books which appeared to be eligible. These slips were arranged by publishers. A statement of the purpose of the Committee's work and the general eligibility requirements was drawn up. Each publisher represented in the preliminary lists was sent a copy of this statement together with the list of books published by him which appeared to be eligible. The publishers were asked to eliminate any books which did not meet the Committee's general requirements for eligibility for example, those by foreign authors, and were asked to suggest additional titles which appeared to be eligible. Examination copies of all books to be considered were requested.

When the books were received, they were examined by the Editor and his associates. Books which were patently intelligible were eliminated at this stage. Descriptions similar to and in many cases identical with, the descriptions in the present book were prepared for the books which survived this preliminary test. Next, these descriptions were classified by subject and the subject lists were sent to specialists in various fields who had agreed to act as consultants to the Committee. Our consultants made many valuable suggestions, both as to books which could be dropped from the lists and books which should be added. Several of them even undertook the rewriting of some of the annotations in order to improve the accuracy of the descriptions.

Eventually the final selection of books was made by the Editor on the basis of his own judgment, the reviews in periodicals and the recommendations of the consultants. The Editor is responsible also for the final form of the notes. As is customary he assumes the responsibility for all of the faults of the selections and the book descriptions. Nevertheless whatever excellent qualities the work has are definitely the result of collaboration among the Editor, his assistants, the Committee, and the consultants.

Classification of scientific and technical literature is a vexatious problem which constantly grows more difficult as areas of knowledge which once had fairly definite boundaries tend to merge with adjacent areas. Classification of a comprehensive small list is even more difficult than classification of a comprehensive large list. Furthermore, the principles of good typography made it inadvisable to set up either a main heading or a subheading and enter only one or two books under it. Accordingly many of the subheadings found in our previous volumes are not present in this supplement. In several fields the subheading "General" now includes several very specialized books which were not numerous enough to justify specific subheadings. In some instances it proved necessary to telescope several of the subgroups formerly used. An effort was made in the preparation of the subject index to compensate for inadequacies of the classification.

The bibliographical descriptions and abbreviations used in the first volume proved to be adequate and have been repeated without change in this one. In most cases no attention has been paid to preliminary matter included before the start of the main paging, hence the number of pages given represents the body of

Preface

the book. However when two sets of pages are indicated, for example, "143 21 p." supplementary paging has been noted. Illustrative material is described simply. Any graphic or pictorial matter aside from printed text has been indicated by the phrase "illus." Colored illustrations have been indicated by the abbreviation "col'd." Colored illustrations combined with black and white are indicated by "(part col'd)." The only dimension included is height, expressed in centimeters, abbreviated "cm." When binding is not described cloth or other "hard" binding can be assumed in most cases. Paper bindings were indicated when it was known to the editor that the books were supplied only in paper. When both paper and cloth bindings are available both bindings are listed with their respective prices.

All publishers were asked to supply the current prices of their books and also to indicate any special prices or additional charges made to buyers in other countries. The prices given in the printed work represent the information supplied by the publishers but not all publishers were careful to supply information on foreign charges. Prices in this book are therefore not guaranteed. Inquiries about current prices should be made of the publisher in all cases where it is essential to have an accurate price.

The headings listed under "Contents" have been taken directly from the books. When it was necessary to abridge the table of contents of a book, an effort was made to select headings which illustrate the book's scope and special features. The notes are designed to supplement the information given out in the titles and tables of contents especially to bring out unusual features, indicate uses and reader groups not indicated in the titles and to mention the more significant changes in new editions. The number or numbers that follows the word "Note" is a reference to a numbered entry in our original volume or the first supplement; a plain number indicates the original volume—a number followed by an asterisk, the first supplement. In most instances the reference is to a description of an earlier edition. In a few cases, the reference is made to a description of a companion or related book. Some of the notes were taken with little or no change from the New York Public Library's bimonthly *New Technical Books*. As already mentioned a few were written or revised by our consultants. All of the others were written by the editor and his staff.

As in the preparation of the original work and the first supplement, an Executive Subcommittee acted for the larger Committee in overseeing preparation of the manuscript and its printing. Of this group Dr. Fulton gave judicious advice on editorial matters and Mr. Crane kept all questions concerning finance from falling on the Editor's shoulders.

Again Mr. Daniel C. Haskell assumed and carried out the tasks of marking copy for the printing and reading the proofs of the whole book. Jack E. Brown compiled the author and subject indexes supervised the organization of part of the manuscript, and wrote some of the notes. Joseph C. Borden, as usual, contributed many notes. The Editor's secretary Mrs. Joan Dunn carried the major burden of "keeping track of things" the letters to publishers, the arrival of books, the whereabouts of various portions of the manuscript, in addition to doing most of the typing.

The following persons, in addition to the Committee, gave advice or served as consultants and the thanks of both the Editor and the Committee are gratefully extended to them.

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Scientific, Medical, and Technical Books

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Columbia University

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Massachusetts Institute of Technology
R. R. HAWKINS
New York Public Library
August, 1953

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PSYCHOSOMATIC MEDICINE	288	Electric Wiring	
PSYCHIATRY	292	Electronics	
MENTAL HYGIENE AND POPULAR PSYCHIATRY	300	COMMUNICATIONS ENGINEERING	
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		Sound Recording	
		Antennas	

SCIENCE

GENERAL

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

Centennial collected papers presented at the centennial celebration, Washington D C., September 13-17 1948. Washington American Association for the Advancement of Science, 1950 313 p. illus. 27 cm. \$5.00 1

Contents: Science of society: Is economics necessary? by K. R. Boulding. How civilization has changed by A. L. Kroeber. Science and the strategy of social science, by E. A. Shils. Science and the control of human population, by W. S. Thompson. Educational problems: Growth potentials of the human infant, by A. Gould. The social environment of the educational process, by T. Parsons. Education and the schools, by R. W. Tyler. Human individuality: The human factor, by R. J. Williams. Primary mental abilities, by L. L. Thurstone. The genetic approach to human individuality, by L. H. Snyder. The individual and the culture process, by L. A. White. Nutrition: Nutrition and the climatic pattern of soil development, by W. A. Albrecht. Seven decades of nutrition research, by A. C. Elvehjem. Cultural contents of nutritional patterns, by M. Mand. Housing: Housing—where the natural and social sciences meet, by R. J. Havens. The contribution of science to housing, by L. W. Hootman. Housing in the redevelopment of American cities, by C. W. Beach. World health problems: The global concept of disease, by E. C. Faust. Public health in the international scene, by L. A. Schless. Medical research—operating humanity by A. C. Fry. The future of modern developments in nuclear energy as public health problems, by E. L. Warren. Science, psychiatry, survival, by E. E. Appel. Sources of energy: Solar energy, by F. Danckw. Energy base food facts, by M. K. Habbert. Atomic energy, by E. P. Weiser. The upper atmosphere: The sun and the earth, by D. E. Menzel. The circulation of the upper troposphere and lower stratosphere, by C. G. Knutson and E. C. Willett. The world's natural resources: On fish in the biosphere, by G. K. Hutchinson. Plants and agriculture as renewable resources, by E. A. Cole. Biological problems of the scene, by D. Merriam. Wood in an industrial world, by J. A. Hall. The exploitation of mineral resources, by T. S. Lovvick. Oases and cytoplasm: Oases as determinants of cellular biochemistry, by D. M. Hunter. The role of cytoplasm in heredity, by T. M. Swannick. The effects of changes in quantity, combination, and position of genes, by C. Mac. High polymers: Polystyrenes, by R. M. Fieser. Structure and behavior of rubberlike substances, by H. M. James. Interactions of matter and radiation: The elementary particles of physics, by C. D. Anderson. Oxygen isotopes in nature and in the laboratory, by H. C. Urey. New words for study, by J. Hillier. Waves and rhythms: Rhythmic behavior of the nervous system, by H. Hinchelwood. Sound waves and rhythm, by V. G. Kravtsov.

Note: Some of the papers in the volume were published previously elsewhere, but the majority are original.

BAITSELL GEORGE ALFRED editor

The centennial of the Sheffield Scientific School. New Haven Yale University Press, 1950. 206 p. illus. 24 cm. (Yale University Mrs. Hepsa Ely Silliman Memorial Lectures) \$3.00 2

Contents: High energy physics, by E. O. Lawrence. Chemical achievement and hope for the future, by L. Pauling. Virus research—achievement and promise, by W. M. Stanley. Genes and biological enigmas, by G. W. Beadle. Climates for humanity, by R. W. Silliman. The Sheffield Scientific School from 1847 to 1947, by C. H. Warren. Science and the whole man, by K. W. Macmillan. Bookends Silliman in the future, by J. F. Fulton. Overtone, by C. R. Boyer. The relationship of the Sheffield School to agriculture, by E. E. Vickers. Centennial problems in the Sheffield Scientific School from Sigma XI, by G. A. Baitzell.

Note: The first four papers in this volume constitute the twenty-ninth series of the Mrs. Hepsa Ely Silliman Memorial Lectures. They are addressed primarily to educated laymen and they summarize significant recent advances in several scientific fields. The rest of the volume consists of special addresses on the occasion of the Centennial of the Sheffield Scientific School, the establishment of which in 1847 marked "the acceptance of science in America as an important and necessary part of education and of life in general."

BAITSELL, GEORGE ALFRED editor

Science in progress. Sixth series. New Haven Yale University Press, 1949 322 p. illus. 24 cm. (The Society of the Sigma XI National lectureships 1947 and 1948 and the Silliman lectures 1947) \$5.00. 3

Contents: Physics, by G. A. Baitzell. From X-rays to nuclear fission, by H. D. Smyth. Elementary particle physics, by J. A. Wheeler. High energy physics, by E. O. Lawrence. The light and synthetic elements, by G. T. Seaborg. Chemical achievement and hope for the future, by L. Pauling. Chromatography and spectroscopy in organic chemistry and stereochemistry, by L. Zechmeister. Virus research: achievement and promise, by W. M. Stanley. The tobacco mosaic and tobacco, by R. J. Drew. Genes and biological enigmas, by G. W. Beadle. The evolution and function of genes, by A. H. Sturtevant. Modern soil science, by C. E. Kellogg. References. Index.

— Science in progress. Seventh series. New Haven Yale University Press, 1951 512 pp. 26 cm. (The Society of the Sigma XI National lectureships, 1949 and 1950) \$6.00 4

Contents: The first heart beats and the beginning of embryonic circulation, by R. M. Fieser. The reproductive cycle of the mouse embryo, by G. W. Corner. Human infancy and the embryology of behavior, by A. Gould. Radiation damage to the genetic material, by H. J. Muller. Beyond the gene—two years later, by T. M. Swannick. The macromolecular structure of biological materials, by E. W. G. Wyckoff. The elementary particles of physics, by C. D. Anderson. Atomic and solar energy, F. Danckw. Atomic structures and energy, by J. E. Drenth. The theory of bonds, by E. Arbib. History of the fauna of Latin America, by G. G. Simpson. The physical chemistry of polymers, by R. M. Fieser. References. Index.

Note: (1) Each volume of this series contains papers developed from lectures delivered under the sponsorship of the Society of the Sigma XI at leading American universities. The purpose is to enable outstanding scientists to report on the progress being made in various fields of scientific research and to describe their recent work. As in the preceding volumes, the topics are diversified, but there is some emphasis on the biological sciences. The authors have written primarily for audiences of trained scientists, but some of the papers have appeal for mature laymen who are versed in scientific terminology and basic concepts.

BAWDEN ARTHUR TALBOT

Man's physical universe: a survey of physical science for colleges. Third edition. New York The Macmillan Company 1950 822 p. illus. 22 cm. \$6.00 5

Contents (abridged): The intelligent selection of problems in this series is the price of liberty. The subject is vast system of parts moving and changing under the influence of "flow of energy. Continuous changes in the earth's surface have brought about conditions which make possible the life of modern man. Man has applied his knowledge of physical properties and physical changes to ever more every physical phenomena. Man has discovered and increased

different forms of matter. Energy may be propagated through the ether and through matter by means of vibrations. The applications of magnetism and electricity have greatly modified the activities of mankind. Man is mastering his material world through an ever increasing understanding of its nature. Creative chemistry has contributed greatly to man's physical progress. Man's physical welfare is the most important problem of physical science.

Note: (47) One of the more successful of the "cultural" type of introductions to science. Descriptions of applications of physics and chemistry make up most of the text, but a fair amount of space is given to physics astronomy and other sciences. There is practically no use of mathematics, and numerous headings in bold-face type, short paragraphs, readable style, and over 300 illustrations have been used to lure the unwilling student. Much new material, not of a concerned with recent applications of science, has been introduced in this edition.

BURCHARD, JOHN ELY, editor

Mid-century—the social implications of scientific progress. Verbatim account of the discussions held at the Massachusetts Institute of Technology on the occasion of its mid-century convocation, March 31 April 1 and April 2 1949 Cambridge Mass. Published jointly by The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc. New York, 1950 549 p. 23 cm. \$7.50 6

Contents: The state of science. The twentieth century man against nature. Man against man. Science, materialism and the human spirit. The role of the individual in world limitations. The problem of specialization in twentieth century education. The state, industry and the university. The state of the future. The obligations and ideas of an Institute of Technology. Appendix. Bibliographical notes. Index.

Note: In this book some 35 contemporaries who are famous for their work in science or in other fields, such as politics, discuss matters which are basic or less related to the impact of science upon our society. There is some emphasis, but not an overwhelming content, on the special contributions and problems of individualism. The speeches themselves are copiously supplemented by comments from the editor and others.

BUSH, GEORGE POLLOCK, AND LOWELL H. HATTERY, editors

Scientific research its administration and organization. Washington. The American University Press 1950 190 p. 25 cm. \$3.25 7

Contents: Introduction: New challenges in administration, by L. H. Hattery. Part one, Research organizations: Administration of sponsored research, by C. W. Good. Problems in the coordination of Federal research, by L. R. Hatcher. Responsibility for planning research: committee versus staff, by K. W. Scott. Government research contracts, by R. B. Barrett. Part two, Administrative personnel: Responsibility of research directors, by H. L. Dryden. Planning research progress, by L. W. Kane. Maintaining scientific research activities, by H. A. Martin and D. L. Williams. Part three, Research personnel: Recruitment and selection of the research worker, by E. U. Condon. Professional development of personnel, by A. H. Hatcher. Significance of leadership in tracking scientific workers, by M. H. Tripp. Lectures from the viewpoint of scientist, by L. L. Zermatt. Decisions from the viewpoint of psychologist, by M. D. Hovens. Part four, Aids to research: Budgeting and analyzing costs for the research program, by A. P. Slapet. Budgeting the research program, by Robert Curry. Subsidizing and cost accounting in research institutions, by W. F. Harwood. Internal organizational aids to research, by R. B. Shaw. Part five, Research procedure: Application of research effort, by R. W. Brubaker. Disposition of effort in research and development programs, by M. T. Ball. Disposition in research and development, by R. B. Steiniger. Publication and dissemination of research results, by M. A. Barton. Research reporting, evaluation and utilization, by G. W. Irving. Part six, Conclusion: Principles of administration in the research environment, by G. P. Bush. Index of names. Index of subjects.

Note: A book made up of short papers presented at the first Institute on the Administration of Scientific Research and Development, held in Washington, D. C., under the joint sponsorship of the American University, the National Research Council, and the Amer-

ican Association for the Advancement of Science. Most of the papers are informal and confined more or less to contemporary problems and recent developments. Together they present a quick review of the current problems, efforts, and techniques of organized research rather than a comprehensive treatment. Some of the papers are accompanied by bibliographical footnotes, but there is no systematic list of references.

CHRISTMAN, RUTH C, editor

Soviet science. A symposium presented on December 27 1951 at the Philadelphia meeting of the American Association for the Advancement of Science. Arranged by Conway Zirkle and Howard A. Meyerhoff. Published with the aid of a grant from the National Science Foundation Washington D. C. American Association for the Advancement of Science, 1952 108 p. 24 cm. \$1.25 8

Contents: Russian genetics, by T. Dobzhansky. Russian physiology and pathology, by W. H. Gust. Russian psychology and psychiatry, by I. D. London. Scientific method and social science: East and West, by R. L. Ackoff. Russian contributions to cell science, by J. B. Jell. Soviet physics and chemistry, by J. Turkevich. Soviet mathematics, by J. E. Kilian. Science and intellectual freedom in Russia, by L. Vello. An appraisal of science in the USSR, by C. Tish.

Note: The emphasis in this work is on Soviet science in our times; however, most of the papers contain references to earlier times and especially to Russian scientists who made great contributions to their field. Relationships between Soviet politics and Soviet science today are discussed. Contemporary journals and scientific institutions are mentioned.

COHEN, I BERNARD

Some early tools of American science: an account of the early scientific instruments and mineralogical and biological collections in Harvard University. With a foreword by Samuel Eliot Morison. Cambridge Harvard University Press, 1950 201 p. illus. 25 cm. \$4.75 9

Contents: Introduction. The history of science at Harvard. Note on the government of Harvard College. Scientific instruments at Harvard before the late of 1764. Instruments for the study of natural philosophy after the late of 1764. The beginnings of chemistry at Harvard. The biological sciences, the Museum, and The mineral cabinet. Conclusion. Appendix: Thomas Wolfe's gift of philosophical apparatus. The philosophical apparatus in 1779. Some early instruments and specimens at Harvard University. The chemical laboratory in 1821. Bibliographical notes. References and notes. Index.

Note: Harvard University maintains a valuable collection of old scientific instruments, dating from about 1764. This volume is especially an illustrated catalogue of these instruments as they were used in the early years of the university. The collection was established in February 1949. It is more valuable, however, as a contribution to the history of science and science teaching in America. The actual descriptions of the various pieces of apparatus is preceded by a discussion of how such instruments were obtained and the manner of their use in teaching and research during the colonial period.

COHEN, I BERNARD AND FLETCHER G. WATSON, editors

General education in science. With a foreword by James Bryant Conant. Cambridge Harvard University Press, 1952 217 p. 22 cm. \$4.00 10

Contents: Science for the non-scientist. Science and the layman, by R. J. Dubois. General education and special education in the sciences, by R. J. French. The socialization of science into general education, by F. H. Jones. The philosophy of science and the teaching of science: The role of philosophy in general education courses in physical science, by Z. C. Kambou. Teach teachers of general education in the sciences should know about philosophy, by F. Frank. The history of science and the teaching of science: The history of science and the teaching of science, by I. B. Cohen. The use

of historical cases in science teaching, by L. K. Nash. Acquiring knowledge of the history of science, by F. G. Kilgus. The sciences in technical education: Applications of science and the teaching of science, by P. Le Corbeiller. What the layman needs to know about science, by S. A. Gendelink. Education for citizenship in technical education, by E. C. Fuller. Some problems in the teaching of biology: An approach to the teaching of biology to non-scientists, by E. S. Chalk. The general education course in biology—biology work and general objectives, by G. E. Erikson. The laboratory problem: Can general education courses in the sciences be evaluated? by H. S. Dyer. What the instructor can do about evaluation—techniques and examples, by F. G. Watson.

Notes: Papers which were originally presented at the Workshop in Science in General Education held at the Harvard Summer School in July 1950, are collected in this volume. Their purpose cannot be described better than in the words of Dr. Conant: A major educational problem that now confronts those concerned with teaching science is how to start the student down road that he knows his arriving at some degree of scientific literacy even though he devotes his college years to the study of some non-scientific subject. This is problem to which the papers collected in this volume are primarily addressed.

COLEMAN, HARRY SHIPP editor

Laboratory design National Research Council report on design construction and equipment of laboratories. With an introduction by Roland Wank. New York: Reinhold Publishing Corporation 1951 393 p. illus. 35 cm. \$12.00 11

Contents (abridged): Part I. Materials, facilities, services and equipment—general discussion: Introduction, by R. A. Wank. Laboratory construction materials, by E. M. Jenkins. Plumbing, by J. E. York. Laboratory lighting, by J. L. Terman. Electric power, by J. H. Egan. Laboratory ventilation, by W. C. L. Brown. Safety precautions, by F. A. Van Allen. Part II. Teaching laboratories: Site selection, design and construction, by H. F. Lewis. The general science laboratory, by W. A. Maxwell. The analytical chemistry laboratory, by E. J. Meehan. The organic chemistry laboratory, by C. D. Nord. The physical and electrochemical laboratory, by L. O. Cox. Mechanical and related laboratories, by A. A. Christman. The chemical engineering laboratory, by C. C. Wadsworth. The metallurgical laboratory, by R. C. Frye and G. C. Williams. Part III. Industrial laboratories: Details and descriptions of an analytical control laboratory, by R. L. Clark and others. Metallurgical laboratories, by H. K. Work. Animal research and equipment, by C. P. Carpenter. Industrial laboratories for physical measurements, by H. P. Klap. The design of laboratories for the side handling of endproducts, by M. S. Hinchins. Control-temperature-humidity rooms, by M. E. Dyer. High-pressure laboratories, by R. L. Savage. Pilot plant laboratories, by W. L. Felt. Part 4. Concise descriptions of some modern laboratories: Illinois Institute of Technology Laboratory, by M. Knapf. East College Laboratory, by A. F. Scott. Battelle Memorial Institute research buildings, by W. A. Wickler. J. McInnis Laboratories, by C. S. Nelson. Johns-Manville Research Center, by E. M. Jenkins. Esso Research Center—Industrial Laboratory, by W. R. Eust. R. F. Overbeck Research Center, by D. H. Corwell. Selected bibliography index.

Note: An authoritative and comprehensive reference book on modern teaching and research laboratories. The book is of interest to all scientists whose work includes responsibility for laboratory organization or direction and to engineers and architects interested in the design and construction of laboratories. The descriptions of specific modern laboratories in the fourth part are brief but they are supplemented by many excellent pictures.

CONANT, JAMES BRYANT

Modern science and modern man New York: Columbia University Press, 1952 111 p. 21 cm. (Bampton lectures in America. Number 5) \$2.25 12

Contents: Science and technology in the last decade. The changing scientific scene, 1900-1950. Science and human conduct. Science and spiritual values.

Note: A book presentation of the four Bampton lectures delivered at Columbia University in 1951. In it the author outlines the fundamental changes which have occurred in scientific knowledge since 1900, then discusses the philosophical and spiritual implications of this new insight into the nature of the universe. Although of interest to scientists, the book is addressed more to educated people in other fields.

CONANT, JAMES BRYANT

Science and common sense. New Haven: Yale University Press 1951 271 p. 21 cm. \$4.00 13

Contents: Science and the American citizen. What is science? Concerning the alleged scientific method. The development of the concept of atmospheric pressure. Some recurring patterns in experimental inquiry. Geometrical reasoning and quantitative experimentation. The origin of conceptual schemes: the chemical revolution. The study of living organisms: natural history and experimental biology. Experiment and observation in biology: illustrations from the controversy concerning spontaneous generation. The study of the past. The impact of science on industry and medicine. Science, invention, and the state. Bibliography index.

Note: The author's *On understanding science* (1947) was primarily proposed for a new program of teaching the meaning of science to college students preparing for work in law, journalism, and other non-scientific fields. The present book is addressed to the lay reader and, although some material from *On understanding science* has been included, the pedagogy has been left out. The subject is mainly "the tactics and strategy of science, and the discussion includes accounts of "case histories, such as Boyle's experiments with atmospheric pressure, Röntgen's discovery of X-rays, etc. In the last two chapters the author turns to the social aspects of modern science, showing that science is a major and essential part of the present-day social fabric.

DE VRIES LOUIS

French English science dictionary for students in agricultural, biological and physical sciences with a supplement of terms in aeronautics electronics radar radio television. Second edition. New York: McGraw Hill Book Company Inc., 1951 596 p. 19 cm. \$6.50 14

Note: (111a) A standard reference book in which is contained well-chosen selection of terms from several scientific fields and also some terms from the literary language. The first edition appeared in 1940. Except for the correction of a few errors, the text of the present edition is the same to the end of page 333. However, supplement of aeronautical, electronic, and communication terms—which runs from page 333 to page 344—has been added.

KNAPP, ROBERT HENRY AND H. B. GOODRICH

Origins of American scientists a study made under the direction of a committee of the faculty of Wesleyan University Chicago, Illinois The University of Chicago Press, 1952 450 p. illus. 25 cm. \$7.50 15

Contents (abridged): The undergraduate origins of American scientists. The indexes of production of scientists. The design of the statistical study. The analysis of the college sample. The analysis of the university sample. The design of the case study. Four institutions of broad intellectual emphasis: Reed, Swarthmore, Oberlin, and Andover. Five men's liberal arts colleges: Amherst, Haverford, Wabash, Wesleyan, and Williams. Western liberal arts colleges of distinguished performance: Central, Colorado, Cornell, Earlham, Kalamazoo, Marquette, and Whitman. Two preponderant colleges of superior achievement: Princeton and DePauw. Two colleges of minority constituency: Hope and St. Olaf. Two liberal arts colleges of special interest: Iowa Wesleyan and Linfield. The statistical analysis of departmental ratings. The distinguished teacher. Summary of findings. Specializations and interrelations. Conclusion. Appendix. General index. Index of institutions.

Note: The findings of a systematic study of the educational origins of American scientists and of other factors which led them to choose scientific careers are reported in this book. It is based on statistical statement of the records of 490 universities and colleges in the production of scientists. Twenty-two selected liberal arts colleges—named in the chapter titles—were the subjects of special study and detailed investigation. The study was conducted under the joint sponsorship of the Carnegie Foundation and Wesleyan University under the direction of the Committee on Education of Scientists of Wesleyan.

NATIONAL RESEARCH COUNCIL

Scientific, medical and technical books published in the United States of America, a selected list of titles in print with annotations. Supplement of books published 1945-1948. Edited by R. R. Hawkins prepared under the direction of the National Research Council's Committee on Bibliography of American Scientific and Technical Books. Washington, D. C. National Research Council, 1950 514 p 30 cm. \$10.00 16

Contents: Science. Mathematics. Astronomy. Physics. Meteorology. Chemistry. Geology. Oceanography. Biology. Botany. Zoology. Min. Human anatomy. Physiology. Microbiology. Botany. Medicine. Gynecology and obstetrics. Surgery. Dentistry. Industrial medicine. Public health. Nursing. Hospital. Personal hygiene and first aid. Psychosomatic medicine. Psychiatry. Mental hygiene and popular psychiatry. Psychology. Engineering. Civil engineering. Military engineering. Mechanical engineering. Electrical engineering. Communications engineering. Chemical engineering. Applied chemistry. Heat and power engineering. Mining engineering. Metallurgy and metallurgy. Shipbuilding and boat building. Marine engineering. Navigation. Aeronautics. Photography. Food technology. Miscellaneous technology. Industrial management. Agriculture. Forestry. Forest products. Pharmacy. Military science. Naval science. Directory of publishers. Author index. Subject index.

Note. More than 1500 books, issued by about 275 publishers, are described in this classified bibliography. The descriptions include not only the usual bibliographical information, but also publisher's price, table of contents, and a supplementary annotation. Only works of citizens and residents of the United States and Canada are included, and the books of Canadian authors have been listed only when published in the United States. The series now includes the original volume which covered books published 1930-1944, the supplement here described, and the second supplement in hand.

PERSONS STOW, editor

Evolutionary thought in America. New Haven Yale University Press 1950 462 p illus 24 cm. \$5.00 17

Contents: Part I. The theory of evolution: The rise and impact of evolutionary ideas, by E. S. Semon. Evolution in its relation to the philosophy of nature and the philosophy of culture, by F. S. C. Northrup. The genetic nature of differences among men, by T. Dobzhansky. Part II. Evolutionary thought in America: Evolution and American ancestry, by E. E. L. Ford. The impact of the idea of evolution on the American political and constitutional traditions, by E. S. Semon. Evolutionism in American economics, 1800-1944, by J. J. Spengler. The influence of evolutionary theory upon American psychological thought, by E. O. Rorty. Materialism in American literature, by M. Corley. The idea of organic adaptation and American architecture, by D. D. Ryghol. Evolution and moral theory in America, by W. F. Quillen, Jr. Evolution and theology in America, by S. Premack. Index.

Note. A collection of original papers which were prepared for delivery at Princeton University during the academic year 1945-46 as part of its special program in American civilization. Although the treatment is on an approach undergraduate level, the book as a whole presents an authoritative and well rounded picture of its subject and, therefore, merits reading by persons outside of colleges who are interested in the impact of science on social thought or upon the history of organic evolution. Bibliographical citations and scholarly notes accompany most of the chapters.

POOLE, LYNN

Science via television. Baltimore The Johns Hopkins Press 1950 198 p illus. 23 cm. Paper \$2.00 18

Contents: Science—via television. The master plan. Participants. Selecting the subject. Developing the theme. Choosing the visual material. Writing the script. The opening and the closing. Setting the stage. Camera angles. Rehearsing the program. How it was done. Outline of program. Glossary of tele-terms. Books on television. Television magazines. Index.

Note. A valuable book from two viewpoints. It presents in careful detail the methodological problems of preparing and presenting an

educational program on television; second, it demonstrates how successful series of telecasts devoted to science—the Johns Hopkins Science Review—was developed, written, directed, rehearsed, and broadcast. The material included ranges from script writing and format to discussion of very specialized points, such as precautions to be taken when it is necessary to include glass objects in televised scenes.

POOL, LYNN

Today's science and you. Illustrated by Jeanne Bendick. New York Whitteley House, McGraw Hill Book Company Inc., 1952 208 p illus. 21 cm. \$2.75 19

Contents: Today's scientists and you. X-ray. The atom. The microscope. Higher and higher. 100,000 calls to one with. An industrial headache. Schizophrenia. No one wants flu. Human engineering. What is an isotope? Trace elements. X-rays. Borneo disease. Is there science in art? Key to the past. Who knows? Index.

Note: A popular book based on the Johns Hopkins Science Review television program which received the Peabody Award in 1951. Although the book is good reading for the layman who wants to know something about current activities of scientists, it is more important as pioneer example of the integration of scientific achievements via new medium—television. Recent scientific developments and research in progress in a variety of fields such as television and cosmic physics are discussed in elementary language so as to reveal the significance of the scientific method in contemporary living.

THE SCIENTISTS LOOK AT OUR WORLD. By W. V. Houston W. Albert Noyes Jr., Curt Stern Alan Gregg, Wendell H. Camp. Introduction by John M. Fogg Jr. Philadelphia University of Pennsylvania Press 1952 147 p. 22 cm. (The Benjamin Franklin Lectures of the University of Pennsylvania) \$3.00. 20

Contents: Introduction, by J. M. Fogg, Jr. Description of the physical world, by W. V. Houston. The varied uses of chemistry, by W. A. Noyes, Jr. Genetics and the world today, by C. Stern. The true convergence of medicine, by A. Gregg. Final science in the world today, by W. H. Camp.

Note. Five stimulating lectures, first delivered as the 1951 series of Benjamin Franklin Lectures at the University of Pennsylvania, are included in this book. Developments, which are still of fundamental significance, and the social importance of current science are emphasized to some extent. In general, each essay is an interesting account of selected facets of a major branch of science. The style is non-technical.

THELASE, SAM FARLOW

The scientific paper: how to prepare it, how to write it: a handbook for students and research workers in all branches of science. Second edition. Baltimore The Williams & Wilkins Company 1951 163 p. illus. 19 cm. \$2.50 21

Contents: The research problem. Writing the paper. Good form and usage. Tables. Illustrations. Proofreading. Index. Preface.

Note. (19th) A relatively brief but useful book of guidance and practical information for those who must write scientific papers and reports. Actually this is the fifth edition since three earlier editions appeared under the title *Preparation of scientific and technical papers* and one under the present title. Again, the book has been rechecked and substantially revised. Revision is most apparent in such parts as the "List of Index and Abstract Tools" but in many other parts, sentences and paragraphs have been rewritten and amplified.

UNITED STATES LIBRARY OF CONGRESS. NAVY RESEARCH SECTION

Scientific personnel. A bibliography, compiled by Mabel H. Eller and Jack Weiner

Edited by Barton Bledsoe. Prepared for the Office of Naval Research, Washington The Library of Congress, 1950 164 p. 26 cm. Paper, \$1 15 22

Notes: A selected, unannotated bibliography of literature published 1830-1944 inclusive. There are 1744 items arranged alphabetically by name of author. The subject index is detailed and includes number of subheadings, for instance, "Zaglavien education—accelerated program, which add considerably to the usefulness of the list.

UTINOMI, HUZIO

Bibliography of Micronesia (*Bibliographia Micronesica scientiae naturalis et cultus*) Compiled by Huzio Utinomi. Translated by Mitsuru Fukuda and others. Edited and revised by O. A. Bushnell and others. Honolulu, Hawaii University of Hawaii Press, 1952 157 p. 21 cm. \$2.50 23

Contents: Editor's preface. Author's preface. Plan of the book. Botany Zoology Geology mineralogy and astronomy Linguistics Oceanography Geophysics. Medicine. Anthropology and ethnology Geography Publications cited.

Notes: The original edition of this bibliography was published in Tokyo in 1944. In that edition articles written in Japanese were cited in Japanese. In this edition all Japanese titles have been translated into English including not only the titles of articles but also the titles of books and periodicals. Titles in Occidental languages have not been translated. The material has been arranged somewhat and errors that were discovered have been corrected. The work is comprehensive list of all the scientific writings published about Micronesia to 1944. No new references were added in this edition.

WILSON, EDGAR BRIGHT JR.

An introduction to scientific research. New York McGraw-Hill Book Company Inc., 1952 375 p. illus. 24 cm. \$6.00. 24

Contents: The choice and statement of research problem. Searching the literature. Elementary scientific method. The design of experiments. The design of apparatus. The execution of experiments. Classification, sampling, and measurement. The analysis of experimental data. Errors of measurement. Probability, randomness, and logic. Mathematical work. Numerical computations. Reporting the results of research. Conclusions. Index.

Notes: The book knowledge of research methods which research scientist must possess in order to use his time and experimental material efficiently is outlined in this book. Some of the chapters are very brief; for example, that on searching the literature is only 11 pages long. Some chapters are considerably longer; the one on the design of apparatus being nearly 60 pages long. Even so, the reader is told how to go about finding apparatus rather than how to design it. All of the chapters are developed with excellent selected bibliographies. The book is well organized and is written in a style which is easy to read. Beginning research scientists will find it valuable and experienced ones may profit from reading at least some sections.

HISTORY

CONANT JAMES BRYANT general editor

Robert Boyle's experiments in pneumatics. Edited by James B. Conant. Cambridge Harvard University Press 1950 70 p. illus. 23 cm. (Harvard case histories in experimental science. Case 1) Paper \$1 10 25

Contents: (abridged) The air pump or vacuum pump as a new scientific instrument. The behavior of Torricelli's barometer in vacuum. Boyle's experiments on air as a medium for transmitting sound. The discovery of Boyle's law. Notes on the development of science in the middle of the seventeenth century.

— The overthrow of the phlogiston theory the chemical revolution of 1775-1789 Edited by James B. Conant. Cambridge Harvard University Press, 1950 59 p. illus. 23 cm. (Harvard case histories in experimental science. Case 2) Paper \$1.00 26

Contents: (abridged) The opening phase of the chemical revolution. English translation of the two versions of the *Letter memoir* of Lavoisier. Priestley's comment on Lavoisier's *Letter memoir*. The steps leading to Priestley's discovery of oxygen. The final collapse of the phlogiston theory.

— The early development of the concept of temperature and heat the rise and decline of the caloric theory Prepared by Duane Roller Cambridge Harvard University Press, 1950 106 p. illus. 23 cm. (Harvard case histories in experimental science. Case 3) Paper \$1.50 27

Contents: (abridged) Evaluation of the thermometer. Joseph Black's discovery of specific and latent heat. Count Rumford's investigation of the weight ascribed to heat. Count Rumford's experiments on the source of the heat that is soaked by friction. Humphrey Davy's early work on the production of heat by friction.

— The atomic-molecular theory By Leonard K. Nash. Cambridge Harvard University Press 1950 115 p. 23 cm. (Harvard case histories in experimental science. Case 4) Paper \$1.50 28

Contents: (abridged) The application of the atomic theory to chemistry. Gay-Lussac's law of combining volumes. The apparent inconsistency of the atomic theory and the law of combining volumes. Avogadro's specification. Sources and references.

— Plants and the atmosphere. By Leonard K. Nash. Cambridge Harvard University Press 1952 122 p. illus. 23 cm. (Harvard case histories in experimental science. Case 5) Paper \$1.50 29

Contents: (abridged) A problem emerges. The problem is brought to sharp focus by describing the facts. Priestley picks up the trail. Lavoisier-Lussac assumes the lead. The evolution of Fourier's theoretical views, 1783-1792. The development of Laplace-Boyle's ideas, 1779-1794. De Saussure revises the data and reconstructs the theories. Bibliography.

— Pasteur's study of fermentation. Edited by James Bryant Conant. Cambridge Harvard University Press 1952 57 p. illus. 23 cm. (Harvard case histories in experimental science. Case 6) Paper \$1 00 30

Contents: (abridged) Some elementary principles of biochemistry. Pasteur's early work on optical activity which resulted in his study of fermentation. Translation of portions of Pasteur's memoir on lactic fermentation. Theories of fermentation from Liebig to the present day. Tyndall's lecture on fermentation.

Notes: This series represents planned effort to make available materials from the history of modern science that illustrates the methods of science. The series is addressed particularly to undergraduate college students who are pursuing courses in the humanities and the social sciences and its primary purpose is to give such students "background" for science that will facilitate the appreciation of science and technology as a segment of the social activity of civilized man. The series is also suitable for reading by laymen with mature interests in the methods and history of science. Each of the booklets in the series contains an amount of matter suitable for development. Extensive use is made of excerpts from the scientist's own accounts of their experiments and hypotheses, but there is also much text written by the editor or author of each booklet. The series is not mere collection of excerpts or "readings." Some of the booklets contain lists of suggested readings; others, bibliographies of sources.

GUERLAC, HENRY

Science in western civilization, a syllabus.
New York The Ronald Press Company
1952 197 p 24 cm. \$3.00 31

Note. This compendary work contains an outline of the development of science in western civilization, set up under the head of 91 lectures. The lectures bear such titles as "The Mesopotamian civilization," "Greek medical science," "Alchemy and Arabic chemistry," "The evolution of the calculus," "Development of the atomic theory," and "Science in the United States." For each lecture there is an outline of topics and a list of suggestions for reading. A classified list of general references is placed at the end of the volume. The author is Professor of History of Science at Cornell University.

KREGEBAUER, OTTO EDUARD

The exact sciences in antiquity Princeton
New Jersey Princeton University Press,
1952 191 p illus. 24 cm. \$5.00 32

Contents. List of plates. Introduction. Numbers. Babylonian mathematics. The sources—their development and evaluation. Egyptian mathematics and astronomy. Babylonian astronomy. Origin and transmission of Hellenistic science. The official signs. Chronological table. Index.

Note. Although limited chiefly to mathematics and to certain aspects of astronomy this work is an important contribution to the general history of science. It is based on extensive research in several materials. In it were light is shed on the antiquity of some mathematical concepts and on the debt of Hellenistic science to Babylonian and Egyptian science. There are interesting details on archæology particularly on the scribbling or use of clay tablets after they have been excavated. Each chapter is accompanied by an annotated bibliography and helpful short discussions in the form of notes. The material was delivered originally as "Lectures in history" at Cornell University in 1949.

OEHMER, PAUL HENRY

Sons of science the story of the Smithsonian Institution and its leaders New York
Henry Schuman 1949 220 p. illus. 22 cm.
\$4.00 33

Contents. James Smithsonian and his will. Interregnum. What to do with half a million dollars. Joseph Henry builds an institution. Build and the National Museum. George Brown Goode, the young genius. Seaward Pierpont Langley. A geologist takes the helm. Rounding out century. Chronology of principal events in Smithsonian history. Selected bibliography. Index.

Note. By organizing his material around the lives and accomplishments of six men, Joseph Henry, Spencer Fullerton Baird, George Brown Goode, Seaward Pierpont Langley, Charles Doolittle Walcott, and Charles Greeley Abbot, of whom all but Goode were secretaries of the Smithsonian Institution, the author of this book has produced a very readable outline of the history and development of the Smithsonian Institution from its beginning down to the year 1948. The biographical accounts include personal data, such as dates of birth and schools attended, but are largely devoted to activities in the Smithsonian Institution and its affiliated organizations. The narrative material is supplemented by thirty-nine well-chosen illustrations, chronology of outstanding events in the history of the Smithsonian, and selected bibliography.

SARTON, GEORGE

A guide to the history of science. A first
guide for the study of the history of science

with introductory essays on science and tradi-
tion Waltham, Mass. Chronica Botanica
Company, 1952 316 p. illus. 23 cm. \$7.50 34

Contents (abridged). Part I, Introductory essays: Science and tradition. Part II, A first guide for the study of the history of science. A, History: Historical methods. Historical tables and summaries. Historical atlas. Genealogy. Encyclopaedia. Biographical collections. B, Science: Scientific methods and philosophy of science. Science and society. Catalogue of scientific literature. Union lists of scientific periodicals. General scientific journals. Abstracting and review journals. By C. F. Meyer. National academies and national scientific societies. C, History of science: Chief reference books on the history of science. Treatises and handbooks on the history of science. Scientific instruments. History of science in special countries. History of science in special cultural groups. History of special sciences. Journals and serials concerning the history and philosophy of science. By C. F. Meyer. D, Organization of the study and teaching of the history of science: Mathematical sciences devoted to the history of science. International organization of the history of science. The teaching of the history of science. Institutes, seminars, libraries. International congresses. Prices. Index of proper names.

Note. The first part of this book, which contains lectures three to six indicated in the table of contents, comprises only 64 pages. The rest of the space is devoted to bibliographies of histories of science and related publications and to descriptions of societies, institutes, seminars and libraries with special interests or collections of materials bearing on the history of science. Although the bibliographical and directory parts are valuable for reference, the special emphasis on the history of science has resulted in certain weaknesses that are most apparent in the list of institutes, seminars, and libraries. Here

number of small institutes (including at least one that has been out of existence for several years) are fully described but larger institutions which possess much more material that is valuable to historians of science are not listed because they do not emphasize the field above other fields of knowledge. The index covers personal names adequately but does not include the names of the congresses, societies, seminars, etc., that are described in the book.

SARTON, GEORGE

A history of science ancient science
through the golden age of Greece. Cambridge
Harvard University Press, 1952 646 p. illus.
25 cm. \$10.00 35

Contents. Part one, Oriental and Greek origins. The dawn of science. Egypt. Mesopotamia. Dark interlude. The dawn of Greek culture—Homer and Hesiod. Assyrian interregnum. Ionian science in the sixth century. Pythagoras. Part two, The fifth century: Greece against Persia—the story of Athens. Philosophy and science in the death of Socrates. Mathematics, astronomy and technology in the fifth century. Geographers and historians of the fifth century. Greek scientific of the fifth century chiefly Hippocratic. The Hippocratic corpus. Cosmology. Part three, The fourth century: Plato and the Academy. Mathematics and astronomy in Plato's time. Pythagoras, Aristotle and Alexander—the Lyceum. Mathematics, astronomy and physics in Aristotle's time. The natural sciences and medicine in Aristotle's time. Aristotelianism in science and bibliography in the second half of the fourth century B. C. Other theories of life and of knowledge—the garden and the patch. Epigrams: The end of cycles. General bibliography. Index.

Note. In contrast to the author's well-known *Introduction to the History of Science*, this work is designed for reading rather than for reference. Its scope is almost as broad as that of the *Introduction* and the style is as erudite. The content of Greek science is embodied in adequate detail, and the author points out numerous unexpected relationships. The subject content of the work is such that it will be of interest not only to students of the history of science but also to students of archæology and anthropology. Almost every page contains one or more footnotes which supply or discuss points made in the main text. The general bibliography noted in the table of contents is, however, only a short list of principal authorities.

MATHEMATICS

GENERAL

BIRKHOFF, GEORGE DAVID

Collected mathematical papers. New York
American Mathematical Society 1950. 3 vol.
24 cm. \$18 00 36

Note: Professor G. D. Birkhoff, one of the great mathematicians of the first half of the twentieth century, published his research papers widely in journals in all parts of the world. These three volumes contain all of his published mathematical work except his published books and certain articles, such as reviews and others, which do not have permanent interest.

HILDEBRAND FRANCIS BEGNAUD

Methods of applied mathematics. New
York Prentice-Hall Inc., 1952 523 p illus.
22 cm. (Prentice-Hall mathematics series Al-
bert A. Bennett, editor) \$7 75 37

Contents: Matrices, determinants, and linear equations. Calculus of variations and applications. Difference equations. Integral equations. Appendix: The Orest method for solving sets of linear algebraic equations. Answers to problems. Index.

Note: The author has stated that this book is designed to serve as an introduction to "four fields of mathematics which usually are not treated in courses of the 'advanced calculus' type, but which are useful in varied fields of applications. The fields covered are named in the chapter titles. Although intended for readers whose main interests lie in such fields as physics and engineering, mathematics rather than applications are emphasized and proofs are, generally speaking, technical. It is suitable for use both as text in graduate courses and as self-instruction material for graduate scientists and engineers. A feature which facilitates its use by the latter group is the independent treatment of each method and technique. In other words, it is not necessary to have mastered chapter 1 in order to make use of chapter 3, for instance.

**JAMES GLENN AND ROBERT C JAMES, edi-
tors**

Mathematics dictionary by Armen A. Al-
chian, Edwin F Beckenbach, Clifford Bell
Homer V Craig Glenn James, Robert C
James, Aristotle D Michal and Ivan S So-
kolnikoff. New York D Van Nostrand Com-
pany Inc., 1949 432 p illus. 24 cm. \$8 00
38

Note: (72) A standard reference book for mathematicians, sci-
entists, engineers, and others who use mathematics in their pro-
fessions. The older editions provided definitions of words and terms in
the range beginning with arithmetic and extending through calculus.
The new edition adds definitions of the basic terms in the following
fields: metric differential geometry, theory of functions of real and
complex variables, advanced calculus, differential equations, theory
of groups, theory of statistics, theory of countability, point-set
topology, general analysis, analytic mechanics, and theory of po-
tentials. Also included is an extensive coverage of statistical terms.
Generally speaking definitions are expressed in technical terminology
not intended for the uninitiated layman.

KERSHNER, RICHARD B., AND L. R. WILCOX
The anatomy of mathematics. New York
The Ronald Press Company 1950 416 p.
illus. 23 cm. \$6.00 39

Contents (abridged): Language. The development of mathematics.
The primitive materials of mathematics. Further materials of math-
ematics. The postulational method. Groups. The positive integers.
Fundamental relations on the positive integers. Extended operations
and applications. Inductive sets. Isomorphism and categorical systems
of axioms. Equivalence and order relations. The positive rational
numbers. One-dimensional continua. Fields. Conclusion. Appendix:
Surrealism and sources for the projects. Index.

Note: The authors describe this book as "treatise on the mathe-
matical method. The hint in the title should also be noted. The two
ideas can be combined by stating that in the book certain concepts
and methods of proof of abstract mathematics are dissected, and
axioms are thereby revealed to be the true anatomy of mathematics.
The first six chapters are largely "non-mathematical" and can be
read by any interested person who can follow ordinary prose. Be-
ginning with chapter seven, the going becomes more strenuous. The
readers of the book include advanced students who are preparing to
specialize in mathematics and lay readers who pursue mathematics
for the pleasure of it.

**KUHN HARRY WALDO, AND ALBERT WIL-
LIAM TUCKER, editors**

Contributions to the theory of games.
Princeton New Jersey Princeton University
Press, 1950 201 p. illus. 26 cm. (Annals
of mathematics studies. Number 24) Paper
\$3.00. 40

Contents: Part I. Finite games: The elementary theory of games
played by H. Weyl. Elementary proof of minimax theorem due to
J. von Neumann, by H. Weyl. Basic solutions to discrete games, by
L. S. Shapley and R. N. Now. Solutions of finite two-person games,
by D. Gale and J. Shapley. Solutions of discrete two-person games,
by H. F. Bohnenblust and others. Solutions of games by differential
equations, by G. W. Brown and J. von Neumann. On symmetric
games, by D. Gale and others. Reductions of game matrices, by D.
Gale and others. A simplified two-person poker, by H. W. Kuhn.
A simple three-person poker game, by J. F. Nash and L. S. Shapley.
Isomorphism of games and strategic equivalence, by J. C. C.
McKibbin. Part II. Infinite games: Operator treatment of minimax
principle, by S. Karlin. On theorems of Ville, by H. F. Bohnen-
blust and S. Karlin. Polynomial games, by M. Dresher and others.
Games with continuous, convex pay-off, by H. F. Bohnenblust and
others. Bibliography.

Note: A collection of original contributions to the mathematical
theory of games of which *Theory of games and economic behavior*
by J. von Neumann and O. Morgenstern is the landmark work. All
but two of the papers are marginal to non-zero-sum two-person games.
The current status of the theory of games and of the problems still
unsolved is outlined in the book's preface.

MAZUR, EDWARD A.

The philosophy of mathematics. New York
Philosophical Library 1950 286 p 21 cm.
\$4.00 41

Contents: Introduction: The problem of the philosophy of mathe-
matics. Part I. The history of the philosophy of mathematics: The
historical relation between mathematics and philosophy. Ancient
conceptions. The Cartesian era. British empiricism. Kantian and
positivism. Contemporary directions. Part II. The philosophy of
mathematics: The distinction of speculative sciences. The nature
of mathematical abstraction. Mathematical abstraction and con-
temporary mathematics. Conclusion. Bibliography. Index.

Note: A critical study of the origins and purposes of mathematical
thinking in relation to man's other activities. In the first part,
which occupies about half of the volume, the views of great
mathematicians and philosophers on the subject are digested and
summarized. In the second part the author attempts a philosophy of
mathematics of his own. The book is of interest chiefly to students

all the philosophy of mathematics and the philosophy of science in general. It was prepared originally as a didactic thesis, and it is liberally equipped with literature citations and supplementary notes.

RIDER, PAUL REECE

First-year mathematics for colleges. New York: The Macmillan Company, 1949. 714 p. illus. 22 cm. \$5.00 42

Contents: Review of elementary algebra. Factoring. Fractions. Rectangular coordinates. Functions and graphs. Linear equations. Exponents and radicals. Quadratic equations. Inequalities. Systems of equations involving quadratics. Properties and variation. Mathematical induction and the binomial formula. Progressions. Approximate numbers and computation. Logarithms. Logarithmic and exponential curves. Power functions and their graphs. Mathematics of investment. Trigonometric functions of acute angles. Solution of right triangles. Logarithmic solution of right triangles. Trigonometric functions of any angle. Solution of oblique triangles. Trigonometric formulas and identities. Radicals and roots. Trigonometric curves. Inverse trigonometric functions and curves. Trigonometric equations. Complex numbers. Polynomials. Theory of equations. Equation and locus. Straight line. Circle. Parabola, ellipse, hyperbola. Curve sketching. Parametric equations. Polar coordinates. Curve fitting. Permutations and combinations. Probability. Determinants. Partial fractions. Infinite series. Rectangular coordinates and direction in space. Plane and line. Surfaces and curves. Tables. Index. Answers to odd-numbered exercises.

Note: The wide scope of this book is obvious from the chapter titles. The author has designed it for use by both liberal arts and engineering students. An exceptionally full index makes the book useful for occasional reference and personal and public library collections. The author is Professor of Mathematics in Washington University.

SHANNON CLAUDE ELWOOD AND WARREN WEAVER

The mathematical theory of communication. Urbana: The University of Illinois Press, 1949. 117 p. illus. 24 cm. \$2.50 43

Contents: The mathematical theory of communication, by C. E. Shannon. Recent contributions to the mathematical theory of communication, by W. Weaver.

Note: Ninety-one of the 117 pages in this book are occupied by the article by Claude E. Shannon which was first published in 1948 in the *Bell Telephone Technical Journal* and is reprinted here essentially unchanged. In this paper the theory is presented for communications engineers. In this paper the theory is presented for communications engineers. In this paper the theory is presented for communications engineers. In this paper the theory is presented for communications engineers.

WILDER, RAYMOND L.

Introduction to the foundations of mathematics. New York: John Wiley & Sons Inc., 1952. 385 p. illus. 24 cm. \$5.75 44

Contents: Part I. Fundamental concepts and methods of mathematics. The axiomatic method. Analysis of the axiomatic method. Theory of sets. Infinite sets. Well-ordered sets, ordinal numbers. The power set theorem and the real number system. Groups and their significance for the foundations. Part II. Development of various viewpoints on foundations. The early developments. The Frege-Russell thesis—mathematics as extension of logic. Intuitionism. Formalism. The cultural setting of mathematics. Bibliography. Index of symbols. Index of topics and technical terms. Index of names.

Note: Essentially this is a book about the nature of modern mathematics. The first part is devoted to the fundamental methods, such as the axiomatic method, and to (mathematical) concepts, such as that of "set." The second part is a study mainly philosophical of the nature of this foundation material. Here, the more significant contributions to the aspect of mathematics are reviewed succinctly and critically. The book is a development of courses given by the author at the University of Michigan, and is designed primarily as text. Laymen who pursue the study of mathematics for its cultural value and others who are interested in the meaning of science to society will be interested in at least the final chapters.

HISTORY

BELL, ERIC TEMPLE

Mathematics: queen and servant of science. New York: McGraw-Hill Book Company Inc., 1951. 437 p. illus. 21 cm. \$5.25 45

Contents: Points of view. Mathematical truth. Breaking bounds. "The same, yet not the same." The art of abstraction. Oils from across. Pictorial thinking. Landmarks old and new. Groups. A mystical universe. The queen of mathematics. Abstraction and prediction. From Cyclicism to Neptunism. Two kinds of pictures. The chief instrument of applied mathematics. Further abstractions. Waves and vibrations. Choice and chance. "Reaching the heavens." Rebeck. Index.

Note: A lively popular account of the history and basic concepts of mathematics. It is not "mathematics-for-amateur-philosophers" popularization, but it is designed for general reading and is so organized and written that the general reader who has mathematical bent will be inclined to read it to the end. The author has used material from his *The Queen of the Sciences* (1931) and *The Foundations of the Sciences* (1937) but by revision and simplification, together with reorganization, he has produced what is essentially new work.

KRAMER, EDNA ERNESTINE

The main stream of mathematics. New York: Oxford University Press, 1951. 321 p. illus. 22 cm. \$5.00 46

Contents: Mathematical growth. Matter, art, and poetry. The leading energy of thought. The mathematics of the sciences. The human equation. Ancient values. The father of modern mathematics and his legacy. Science and the supernatural. The death side. A world in flux. From Alice to Einstein. The realm of relativity. The paradise of mathematics.

Note: The first several pages of this excellent book for lay readers are devoted to the Elysian legend about Lilith, daughter of Adam, who came to be attached to the Elysian mathematical world in which our number system is not clearly set forth. The last pages are devoted to some of the famous paradoxes on motion and the concept of infinity. In between there is considerably more attractive than mathematical equations; nevertheless, the development of mathematics is skilfully outlined and some of its major concepts are made as clear as they can be made to the non-mathematical reader.

TABLES

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the Bessel functions of the first kind of orders fifty two through sixty three. Cambridge, Mass.: Harvard University Press, 1949. 544 p. 28 cm. (Harvard University Computation Laboratory Annals, Vol. xii) \$8.00 47

— Tables of the Bessel functions of the first kind of orders sixty four through seventy eight. Cambridge, Mass.: Harvard University Press, 1949. 566 p. 28 cm. (Harvard University Computation Laboratory Annals, Vol. xiii) \$8.00 48

— Tables of the Bessel functions of the first kind of orders seventy-nine through one hundred thirty five. Cambridge, Mass.: Harvard University Press, 1951. 614 p. 28 cm. (Harvard University Computation Laboratory Annals, Vol. xiv) \$8.00 49

Note: (54) These volumes bring to completion a series of tables begun in 1947. The tabulations were made on Harvard University's

automatic sequence controlled calculator and are carried to ten decimal places. The tables are reproduced by offset lithography directly from pages typed by typewriters controlled by the calculating machine, thus avoiding errors that might occur in typesetting. Methods of computation and directions for interpolating are given in the first volume of the series.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the error function and of its first twenty derivatives. By the staff of the Computation Laboratory Cambridge Harvard University Press, 1952 276 p. 27 cm. (Harvard University Computation Laboratory Annals, Vol. xxiii) \$8 00 50

Contents: Introduction: The error function and its derivatives. Computation of the tables. Applications. Zeros of the derivatives. Table I. $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ for values of the arguments from 0.000 to 0.644 at intervals of 0.004. Table II. $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ for values of the arguments from 0.608 to 0.716 at intervals of 0.004. Table III. $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ for values of the arguments from 0.600 to 0.640 at intervals of 0.002. Table IV. $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ for values of the arguments from 0.600 to 0.632 at intervals of 0.002.

Note: This volume in series sponsored by the U. S. Air Force is a tabulation of the error function $\operatorname{erf}(x) = \frac{2}{\sqrt{\pi}} \int_0^x e^{-t^2} dt$ and its derivatives. The Automatic Sequence Controlled Calculator was used for this work, and it is believed that the error in any tabular value is less than six units in the first place not printed. Examples of the application of the error function in statistics and probability physics, and some associated problems are given.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the function $\frac{\sin \phi}{\phi}$ and of its first eleven derivatives. By the staff of the Computation Laboratory Cambridge Harvard University Press, 1949 241 p. 27 cm. (Harvard University Computation Laboratory Annals, Vol. xxii) \$8.00 51

Contents: Introduction—Computation of the tables—applications. The tables.

Note: The values of the function $f(\phi) = \frac{\sin \phi}{\phi}$ and its first eleven derivatives have been tabulated in this volume to nine decimal places for values of ϕ from 0 to 200 radians. The present tables of the basic functions $f(\phi)$ are more extensive in range, accuracy and density than any previous tables. The tables are useful in the solving of problems connected with the Fourier transforms of distribution functions. They were prepared on the Automatic Sequence Controlled Calculator at the request of the United States Air Force.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of the generalized exponential-integral functions. By the staff of the Computation Laboratory Cambridge Harvard University Press, 1949 416 p. 27 cm. (Harvard University Computation Laboratory Annals, Vol. xxi) \$8 00 52

Contents: Introduction: The generalized exponential-integral functions. Computation of the tables. Interpolation. Applications. The generalized exponential-integral functions: Table I. For values of the arguments from 0.000 to 0.040 at intervals of 0.001. Table II. For values of the arguments from 0.000 to 0.080 at intervals of 0.002. Table III. For values of the arguments from 0.000 to 0.143 at intervals of 0.003. Table IV. For values of the arguments from 0.00 to 0.40 at intervals of 0.01. Table V. For values of the arguments from 0.00 to 0.08 at intervals of 0.02. Table VI. For values of the arguments from 0.00 to 2.45 at intervals of 0.08. Table VII. For values of the arguments from 0.8 to 4.0 at intervals of 0.1. Table VIII. For values of the arguments from 0.0 to 9.5 at intervals of 0.2.

Note: Part of series sponsored by the U. S. Air Force and calculated on the Automatic Sequence Controlled Calculator at Harvard University. It contains tabulations of values to six decimal places for the integrals $E_1(x) = \int_x^\infty \frac{e^{-t}}{t} dt$, $E_2(x) = \int_x^\infty \frac{e^{-t}}{t^2} dt$, and $E_3(x) = \int_x^\infty \frac{e^{-t}}{t^3} dt$.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of generalized sine- and cosine-integral functions. Parts I and II. By the staff of the Computation Laboratory Cambridge, Massachusetts Harvard University Press, 1949 2 v illus. 28 cm. (The annals of the Computation Laboratory of Harvard University Vol. xviii-xix) \$8 00 53

Contents: The generalized sine- and cosine-integral functions. Computation of the tables. Interpolation. Applications. Tables of the functions.

Note: Another work in the series of tables prepared at the request of the United States Office of Naval Research and calculated on Harvard University's automatic sequence controlled calculator. The tabulations are carried to six decimal places and have wide application in the investigation of problems in such fields as electrostatics, hydrodynamics, theory of sound, and theory of elasticity.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Tables of inverse hyperbolic functions. By the staff of the Computation Laboratory Cambridge Harvard University Press 1949 290 p. 27 cm. (Harvard University Computation Laboratory Annals, Vol. xxi) \$8.00 54

Contents: Introduction: Contents of the tables. Computation of the tables. Interpolation in the tables. Bibliography of tables of inverse hyperbolic functions. Table I. The inverse hyperbolic tangent $\sinh^{-1} x$ for $0 \leq x \leq 1$. Table II. The inverse hyperbolic sine $\sinh^{-1} x$ for $0 \leq x \leq 1.5$. Table III. The inverse hyperbolic cosine $\cosh^{-1} x$ for $1 \leq x \leq 1.5$. Table IV. The arc hyperbolic sine and cosine $\sinh^{-1} x$ for $1.5 \leq x \leq 22.000$.

Note: The tables in this volume were calculated on the Automatic Sequence Controlled Calculator at Harvard University and are calculated to nine decimal places with possible error in the ninth place of not more than 0.5 unit.

SPENCELEY : GEORGE WELLINGTON AND OTHERS

Smithsonian logarithmic tables to base e and base 10. Prepared by George Wellington Spenceley Rheba Murray Spenceley and Eugene Rhodes Epperson. Washington, D. C. The Smithsonian Institution 1952 402 p. 24 cm. (Smithsonian miscellaneous collections. Vol. 118 (whole volume) Publication 4054) \$4.50 55

Contents: Preface, by G. W. and E. M. Spenceley. Introduction, by E. R. Epperson. Logarithms of powers of 10. Table 1. Natural logarithms (to base e). Table 2. Common logarithms (to base 10).

Note: These are logarithmic tables represent an adaptation of Holzer's factoring method of computing logarithms. A 20-place folded table of natural logarithms was used by the computers in the preparation of these Smithsonian digital logarithmic tables, 1947 (58") and these tables are an outgrowth of the preparation of the earlier work. Table 1 presents 23-decimal-place values of the natural logarithms, Table 2 presents 23-decimal-place values of the common logarithms, of $10^{0.0001}$, $10^{0.0002}$, and $10^{0.0003}$, the range of $10^{0.0001}$ being from 1 to 10,000. The computation of the tables was carried out at M.I.T. and made for the publication was granted by the Research Corporation of New York.

ment Printing Office, 1949 95 p. 26 cm. (United States. National Bureau of Standards. Applied mathematics series 5) Paper, \$0.45 62

Contents: Introduction. Table of sine and cosine $x = [0^\circ(0.1^\circ)90^\circ]$ [1D]. Supplementary table of sine and cosine $x = [1^\circ(1^\circ)90^\circ]$ [30D]. Reprinted from *Verhandlungen des Internationalen Physikalischen Kongresses aus dem Winkel und des Winkel aus dem Funktionen*, by H. W. Winkler, *Gründe der Geometrie*, Kautzschsche Akademie der Wissenschaften, Wien, *Mathematisch-naturwissenschaftliche Class*, Supplement, No. 1, pt. IV, p. 104-190 (1948). Supplementary table of sine and cosine $x = [0^\circ(0.1^\circ)90^\circ]$ [1D].

Notes: Trigonometric tables. 10th decimal subdivision of the degree are of great convenience in numerous problems of applied mathematics. The present volume, to meet the need for such tables, provides tabulations of the sine and cosine to 10 decimal places at intervals of one-hundredth of a degree. The work was done with the financial support of the Office of Naval Research of the Navy Department.

UNITED STATES. NATIONAL BUREAU OF STANDARDS. COMPUTATION LABORATORY

Tables relating to Mathieu functions characteristic values, coefficients, and joining factors. Prepared by the Computation Laboratory of the National Applied Mathematics Laboratories National Bureau of Standards. New York: Columbia University Press, 1951 278 p. illus. 27 cm. \$8.00 63

Contents: Introduction. Graphs of $h_n(x)$ and $q_n(x)$. Bibliography. Comments. Table of characteristic values $h_n(x)$. Table of characteristic values $q_n(x)$. Table of coefficients $D_n(x)$. Table of coefficients $E_n(x)$. Table of joining factors. Values of $h_n(x)$ and $q_n(x)$ $x = [0^\circ(0.1^\circ)90^\circ]$ [1D]. Values of $h_n(x)$ and $q_n(x)$ $x = [0^\circ(0.1^\circ)90^\circ]$ [1D].

Notes: A reference book of tables compiled by the laboratory mentioned in the book's title. The tables are considerably more comprehensive than those available elsewhere.

CALCULATING MACHINES

BERKLEY, EDMUND CALLIS

Giant brains or machines that think. New York: John Wiley & Sons Inc., 1949 270 p. illus. 24 cm. \$4.00 64

Contents: Can machines think? Longman. A machine that will think. Counting tables. Measuring. Accuracy to 23 digits. Speed—5,000 additions second. Reliability—no wrong results. Reasoning. An execution. The future. Serial control. Supplementary. Index.

Notes: A well-written popular book. Not only does it explain the principles of such brain-like machines as Harvard's IBM Automatic Sequence-Controlled Calculator, the Electronic Numerical Integrator and Calculator (ENIAC) and the Kautzsch Logical-Truth Calculator but it covers also several ideas of the principles of calculation by machines and of what may be accomplished by machine calculators and by related ideas such as automatic stenography and translators. It is written for general reading, but it is not superficial popularization. It gives all of it, for reader will find plenty of material about its significance in its comprehensive but in elementary algebra. A good feature for serious students and libraries is an extensive, organized bibliography.

ENGINEERING RESEARCH ASSOCIATES INC.

High-speed computing devices. Supervised by C. B. Tompkins and J. H. Wakelin. Edited by W. W. Stiller Jr. New York: McGraw-Hill Book Company Inc. 1950 451 p. illus. 24 cm. \$7.00 65

Contents: Part I. The basic elements of machine computation. Introduction. Preliminary considerations. Considerations on elementary components. Methods and steps. A functional approach to machine design. Arithmetic systems. Numerical analysis. Part II. Computing systems. Desk calculators. Punched-card computing systems. Large-scale digital computing systems. Analog computing systems. The

force of digital computer. Part III. Physical components and methods. Arithmetic elements. Transfer methods. Data-conversion equipment. Special techniques and equipment for possible use in computing systems. Factors affecting choice of equipment. Index.

Notes: A survey of the principles, chief components, and applications of mechanical and electronic computing machines. It is written largely from the viewpoint of engineers and scientists interested in these machines from the standpoint of design or applications. The entire final chapter on choosing computing equipment is of potential interest to business and laboratory executives. The book is well organized and well written. A fair amount of familiarity with technical and mathematical concepts is essential to understanding it, but it is by no means specialist's book. It was prepared originally under an Office of Naval Research contract.

HARTREE DOUGLAS RAYNER

Calculating instruments and machines. Urbana: University of Illinois Press 1949 138 p. illus. 27 cm. \$4.50 66

Contents: Introduction. The differential analyzer. The differential analyzer and partial differential equations. Some other instruments. Introduction to large automatic digital machines. Charles Babbage and the analytical engine. The first steps of development. Projects and prospects. High-speed automatic digital machines and numerical analysis. References. Name index. Subject index.

Notes: Not as general in scope as the title indicates, this book is nevertheless a useful introduction to present-day automatic calculators. Desk machines and conventional punch-card devices are not included, but the principles of analog machines and digital computers are explained clearly. The operating principles of the Harvard Mark I Calculator and of the E-10 are described in more detail. The book originated as a series of lectures delivered at the University of Illinois in the fall of 1944. There is a bibliography of 123 references.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Description of a magnetic drum calculator. By the staff of the Computation Laboratory Cambridge, Mass. Harvard University Press, 1952 318 p. illus. 27 cm. (Harvard University Computation Laboratory Annals. Vol. xxv) \$8.00 67

Contents: Organization of the calculator. Basic circuits. Storage systems. Arithmetic units. The elementary functions. Numerical input and output devices. Sequencing and control. Instructional tape preparation table. Operation of the calculator. Problem presentation and solution of typical examples. Appendixes. Comments. List of codes. Index.

Notes: Various aspects of the construction, theory and operation of an electronic digital calculator employing magnetic drums and magnetic tape for the storage of numerical and instructional information are discussed in this work. The book is a rather specific description of the Mark III Calculator built by Harvard University for the Bureau of Ordnance of the United States Navy. However, it is of general interest to mathematicians and other scientists who are interested in either the construction or applications of such machines. There are numerous illustrations.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Proceedings of a second symposium on large-scale digital calculating machinery. Jointly sponsored by the Navy Department Bureau of Ordnance and Harvard University at the Computation Laboratory 13-16 September 1949 Cambridge, Mass. Harvard University Press, 1951 393 p. illus. 27 cm. (The Annals of the Computation Laboratory of Harvard University Vol. 26) \$8.00 68

Contents (abridged): The Mark III calculator, by R. I. Moore. The Bell computer Model IV, by R. G. Anderson. An electronic memory system, by J. P. Sklar. The Eyring electronic digital computer, by R. M. Bloch. Semi-automatic instructions on the Eyring, by H. D. Hasky. Static magnetic delay lines, by W. D.

Wm. Colclough takes for men with electronic storage tubes, by R. E. Jullien and A. L. Susskind. Electrochemical computing elements, by J. R. Berman. Logical arrays and transformation rules, by G. W. Patterson. Mathematical methods in large-scale computing units, by D. H. Lehman. Numerical methods associated with Laplace's equation, by W. E. Milne. An iterative method for the solution of the eigenvalue problem of linear differential and integral operators, by C. Lanczos. On the Monte Carlo method, by S. M. Ulam. Double refraction of flow and the dissipation of large asymmetric molecules, by H. A. Scheraga and others. Computational problems in nuclear physics, by H. Feshbach. Computing machines in astronomical research, by E. D. O'Hair. A statistical method for certain nonlinear dynamical systems, by G. E. Ruffin. Combination systems, by H. W. Koenig. Application of computing machinery to research in the oil industry, by M. Mandel. Application of computing machinery to the solution of problems of the social sciences, by F. Mosteller. Computational aspects of certain economic problems, by H. Chernoff. The solution, by J. Rajkman. Traité concis théorique de la calculabilité de la machine à calculer universelle de l'Institut Reine Pascal, by L. Comptant. The future of computing machinery, by L. H. Rice.

Note: Altogether there are in this volume 39 original papers, classified under such headings as "Recent developments in computing machinery," "Numerical methods," "Computational problems in physics," and "The economic and social sciences." The authors are scientists and technologists who are closely associated with progress in the field. Most of the papers are short but practically all of them contain valuable information for persons who are interested in either the development or applications of high-speed computers.

HARVARD UNIVERSITY COMPUTATION LABORATORY

Synthesis of electronic computing and control circuits. Cambridge Harvard University Press, 1951 278 p. 24 cm. (Harvard University Computation Laboratory Annals. [no.] xxvii) \$8 00 69

Contents: Introduction. Vacuum-tube operations. Switching functions of two and three variables. Switching functions of variables. Minimizing charts. Functions and rectangles. Multiple-output circuits. Triggers, rings, and edge counters. Time variables. Rectifiers. Coding systems. Address and acceleration. Multiplexers. Appendix 1: Switching functions of four variables.

Note: In this work the design of electronic circuits for use in computing and controlling mechanisms is treated from the standpoint of fundamental principles. The treatment here is heavily upon algebra, and there are many more mathematical symbols than electronic symbols in the text. However, the math viewpoint is practical. The book will be of primary interest to physicists, mathematicians, and engineers interested in the design of electronic computers. Electrical engineers not working in this field, but whose work involves the design of circuits for industrial electronic equipment, will find it of interest.

JOHNSON LEE H.

The slide rule. New York D Van Nostrand Company Inc. 1949 242 p. illus. 24 cm. \$4.00. 70

Contents: Introduction. Multiplication and division. Squares, square roots, cubes, and cube roots. The log-log scale. Trigonometric scales. Special operations. The Polyphemus and Mannheim slide rules. Table of conversion factors. Answers to problems. Index.

Note: A comparatively full discussion of the use of modern slide rules in the solution of engineering problems. Most of the material has to do with the Duplex rule, but there is also fair amount of material on the Mannheim and Polyphemus slide rules. The author's purpose is to teach students and practicing engineers to use their rules quickly and expertly. He stresses correct handling of the rule, and discusses in detail his interpretations in variety of problems. There are 118 figures and many of these consist of several illustrations.

KORN GRANINO ARTHUR, AND THERESA M. KORN

Electronic analog computers (d-c analog computers) New York McGraw Hill Book Company Inc. 1952 378 p. illus. 24 cm. \$7.00. 71

Contents: Introduction to d-c analog computers. Practical setup procedures. The application of d-c analog computers to representative practical problems. Theory and design of linear computing elements—operational amplifiers and networks. D-c amplifiers for computer applications. Multiplication and function generation. Auxiliary circuits and computer operations. The design of complete d-c analog-computer installations. Appendix: Some properties of parallel-feedback-type operational amplifiers. Bibliography. Author index. Subject index.

Note: Electronic computers are divisible into two main types: (1) digital computers, which are essentially machines that add or subtract in two's-complement fashion but do it very rapidly, and (2) analog computers which are similar in principle to slide rules. Analog computers are usually complicated, expensive, and highly accurate, while analog computers are relatively simple, inexpensive, and less accurate. This is a book on the most useful variety of analog computer. It covers the theory of such computers, their proved and some of their potential applications, their basic elements, and their design. Somewhat more space is given to design aspects than to test. The book is for scientists, electronic engineers, and other persons who are familiar with electrical and electronic terminology and principles.

ALGEBRA

BIRKHOFF, GARRETT

Lattice theory Revised edition. New York American Mathematical Society, 1948 283 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. xxv) \$6 00 72

Contents: Partly ordered sets. Lattices. Chains and chain conditions. Complete lattices. Modular lattices. Applications to algebra. Semi-modular lattices. Complemented modular lattices. Distributive lattices. Boolean algebras. Applications to set theory. Applications to logic and probability. Lattice-ordered algebras. Lattice-ordered groups. Vector lattices. Ergodic theory. Bibliography. Subject index. Author index.

Note: The first edition appeared in 1940. In the past fifteen years the new subject of lattice theory has been undergoing rapid development. It has unified and generalized the foundations of algebra, topology, projective and affine geometry, logic, measure, probability, functional analysis, and ergodic theory. It complements group theory in which it is similar in many ways. This second edition contains about twice as much material as the first edition of Lattice theory. New topics include, simply ordered sets, the axiom of choice, free lattices, residuated lattices, the algebra of relations, classical algebra, and lattice-ordered groups.

BOROVSKY, SAMUEL

Elementary theory of equations. New York The Macmillan Company, 1950 302 p. 22 cm. \$4 50 73

Contents: The complex number system. Polynomials in one variable. Polynomials in the complex domain. Derivatives and multiple roots. Polynomials with real coefficients. Theorems of Budak and Sturm. Approximations to real roots. Cubic and quartic equations. Real and complex constructions. Algebraic limit fields. Symmetric polynomials. Determinants. Linear equations. Elimination. Appendix. Numerical answers. Index.

Note: An introductory work designed to be studied after the student has mastered elementary algebra. The notions of field and polynomial over a field are used throughout the exposition, and to simplify the grasp of these concepts, polynomials are defined as functions rather than as elements of rings. The author is a member of the faculty of Brooklyn College.

BRINK, RAYMOND WOODWARD

College algebra. Second edition. New York Appleton-Century-Crofts, Inc., 1951 495 p. illus. 22 cm. (The Appleton-Century mathematics series, Raymond W Brink, editor) \$3 75 74

Contents (abridged): The fundamental operations. Factoring. Linear equations in one unknown. Functions and their graphs. Exponents and radicals. Quadratic equations. Variation, rate and proportion. Progressions. Logarithms. The binomial theorem. Complex numbers. Theory of equations. Permutations and combinations. Determinants. Infinite series. The mathematics of investment. Curve fitting and least squares. Index.

Note: A standard text designed to meet the needs of college students who have completed at least one course in algebra in secondary school. The first edition was published in 1931. This edition has been extensively revised and new chapters have been added on real numbers and curve fitting. The author is Professor of Mathematics in the University of Minnesota.

CHEVALLEY, CLAUDE

Introduction to the theory of algebraic functions of one variable. New York: Amer. Math. Soc., 1951. 188 p. 26 cm. (American Mathematical Society Mathematical surveys, No. vi) \$4.00 75

Contents: Places and divisors. The theorem of Riemann-Roch. The p -adic completions. Extensions of fields of algebraic functions of one variable. Extensions of the field of constants. Exact differentials. The Riemann surface. Index.

Note: Exposition of the theory of algebraic functions of one variable are more or less bound to try more emphasis either on the algebraic-arithmetical aspect of the subject or the geometric aspect. This book favors the algebraic-arithmetical approach as originally advanced by Dedekind and Weber and later developed by Hensel and Landau. The main difference between the present treatment and earlier ones is that the constants of the fields of algebraic functions to be considered are not necessarily the complex numbers but the elements of a completely arbitrary field. This book includes only the elementary part of the theory. More advanced topics, such as class field theory and the theory of correspondences, have been omitted. However, suitable background of knowledge for the study of these more advanced topics has been provided.

DWYER, PAUL SUMNER

Linear computations. New York: John Wiley & Sons Inc., 1951. 344 p. 24 cm. (Wiley publications in statistics, Walter A. Shewhart, editor) \$6.50 76

Contents (abridged): Computations with approximate numbers. The principles of computational design. The solution of simultaneous equations with the method of multiplication and subtraction. The method of multiplication and subtraction with (exact) division—method of determinants. The solution of equations with approximate methods. Relations between the coefficients. The evaluation of determinants and determinantal ratios. The evaluation of linear forms. An introduction to the algebra of matrices. The inverse matrix and its calculations with approximate methods. The calculation of the adjoint and inverse with the method of determinants. Other methods. The errors of linear computations. Applications to statistics. Author references. Index.

Note: The author has published many papers on problems pertaining to the solution of simultaneous linear equations. In this book he has synthesized the material and presented it essentially for those who are not specialists in mathematics. In his words, "special emphasis is given to solutions with direct pivotal condensation methods that are particularly applicable to the modern desk calculator. The first chapter contains concise discussions of certain fundamental operations of modern computing machines and helpful bibliography. The book is of interest to scientific workers in many fields, including statistics."

JACOBSON NATHAN

Lectures in abstract algebra. Volume 1—Basic concepts. New York: D. Van Nostrand Company Inc., 1951. 217 p. illus. 24 cm. (The university series in higher mathematics) \$5.00 77

Contents: Introduction—Concepts from set theory. The system of natural numbers. Real groups and groups. Rings, integral domains and fields. Extensions of rings and fields. Elementary linear transformations. Group theory. Groups with operators. Modules and ideals. Lattices. Index.

Note: A work based on lectures given by the author at the University of North Carolina, Johns Hopkins University and Yale University. It is designed for use in graduate courses, and where complete—three volumes are planned—it will cover basic concepts, the theory of vector spaces, the algebraic structure of fields. It is introductory to this area of mathematics but of course the treat-

ment assumes considerable degree of mathematical sophistication on the part of the reader.

LASS HARRY

Vector and tensor analysis. New York: McGraw Hill Book Company Inc., 1950. 347 p. 24 cm. (International series in pure and applied mathematics William T. Martin consulting editor) \$5.50 78

Contents: The algebra of vectors. Differential vector calculus. Differential geometry. Integration. Static and dynamic electricity. Mechanics. Hydrodynamics and elasticity. Tensor analysis and Riemannian geometry. Further applications of tensor analysis. References. Index.

Note: An introductory textbook in which considerable attention is given to indicating the applications of vector and tensor analysis. Numerous fully worked examples form part of the exposition. The applications discussed in the final chapter include Einstein's law of gravitation.

MIDDLEMISS ROSS RAYMOND

College algebra. New York: McGraw Hill Book Company Inc., 1952. 344 p. illus. 24 cm. \$3.50. 79

Contents: Real numbers. Fundamental operations. Operations with polynomials and rational fractional expressions. Equations. Functions and graphs. Systems of equations. Inequalities. Negative and fractional exponents. The exponential function. Logarithms. Variation. Progressions. Mathematical induction. The binomial theorem. Compound interest and annuities. Theory of equations. Determinants. Complex numbers. Permutations and combinations. Probability. Tables. Answers. Index.

Note: A modern introductory text intended both for science majors and liberal arts students. Considerable emphasis is placed on problems in student hypothesis. The author is Professor of Mathematics in Washington D.C. only.

MILLER EARLE BRENNEMAN, AND ROBERT M. THRALL

College algebra. New York: The Ronald Press Company, 1950. 493 p. illus. 21 cm. \$4.00 80

Contents (abridged): Part I. Introductory topics. The number system of algebra. Review topics. Part II. Functions of real variable; solution of equations: Linear functions and equations. Quadratic functions and equations. Functions and equations of the third and fourth degree. Functions and equations of the n th degree. Rational functions. Exponential functions and logarithms. Part III. Functions of integers. Sequences and series. Arithmetic, harmonic, and geometric progressions. Mathematical induction. The binomial theorem. Part IV. Other topics: Permutations and combinations. Probability. Matrices, determinants, and systems of linear equations. Complex numbers. Appendix. Index.

Note: A college textbook of intermediate level. It is designed for students who have had courses of elementary algebra and who are proceeding to major in mathematics or in some branch of science where algebra is used at more than an elementary level. The first-named author is Professor of Mathematics in the Illinois College and the second-named author is Associate Professor of Mathematics in the University of Michigan.

PERLIS SAM

Theory of matrices. Cambridge, Mass.: Addison Wesley Press Inc., 1952. 237 p. 23 cm. (Addison Wesley mathematics series, Eric Reissner consulting editor) \$5.50 81

Contents: Introductory concepts. Vector spaces. Equivalence, rank, and invariants. Determinants. Cosine and Hermitian conjugates. Polynomials over fields. Matrices with polynomial elements. Fundamentals. Characteristic roots. Linear transformations. References. Index.

Note: An introductory textbook written particularly for students of engineering and other fields who are studying matrices in matrix theory for its potential practical application. However, as the author points out, it is suitable also for mathematicians who are taking their first course in the subject. Basic ideas and techniques

are emphasized, and each point and manipulation is carefully and fully discussed when first introduced. The author is Associate Professor of Mathematics at Purdue University.

RITT, JOSEPH FELS

Differential algebra. New York: American Mathematical Society, 1950. 184 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. xxxiii) \$4.40 82

Contents: Differential polynomials and their ideals. Algebraic differential manifolds. Structure of differential polynomials. Systems of algebraic equations. Constructive methods. Analytical considerations. Intersections of algebraic differential manifolds. Riquier's existence theorem for arithmetic systems. Partial differential algebra. Questions for investigation. Bibliography. Index.

Note: The body of algebra deals with the operations of addition and multiplication. To these may be adjoined differentiation. These results theory in which algebra and analysis, without forming, play contrasting roles. One obtains thus an enlarged algebraic system in which classical entities appear as evolutionary predecessors of entities of more complex structure. Differential algebra throws strong light on such analytical matters as the singular solutions of algebraic differential equations and the order of a system of such equations. The present book sets forth considerable part of what has thus far been contributed to differential algebra. Concrete algebra and some knowledge of constructives become, consequently, the requirements put on the reader. An appendix presents questions for investigation.

SCHATTEN, ROBERT

A theory of cross-spaces. Princeton: Princeton University Press, 1950. 153 p. 25 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. Number 26) \$2.50 83

Contents: Introduction. Notations and conventions. The algebra of operators $\mathcal{L}_n(A/B)$. Cross-spaces. Cross-spaces of operators. Ideals of operators. Crossed tensor spaces. Appendix: Reflexive cross-spaces. Reflexive cross-spaces. Localized cross-spaces. Appendix: A "well-sorted" cross-spaces. References.

Note: The problem attacked in this study is given two linear vector spaces L and L_1 is it possible to construct a linear vector space, say denoted with the symbol $L \otimes L_1$ of formal products $f \otimes g$ for which the distributive multiplication laws hold? The discussion is on an advanced mathematical level.

SCHILLING OTTO FRANCIS GEORGE

The theory of valuations. New York: American Mathematical Society, 1950. 253 p. 26 cm. (American Mathematical Society Mathematical surveys. no. iv) \$6.00 84

Contents: General properties of valuations. Complete fields. The multiplicative theory of valuations. Special ideal theory. Arithmetic of simple algebras. Local class field theory. The structure of complete fields. The general Galois theory. Facts about linear algebras. Glossary.

Note: The theory of valuations is a branch of topological algebra. Valuation theory plays an important part in such fields of algebra as class field theory, the structure of commutative rings, and the foundations of algebraic geometry. This volume concentrates on the general significance of valuation theory for the algebraic and arithmetic structure of fields, division rings, and simple algebras. Each chapter has its own bibliography and a major part of the literature on valuations is covered.

SOKOLNIKOFF IVAN STEPHEN

Tensor analysis: theory and applications. New York: John Wiley & Sons Inc., 1951. 335 p. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) \$6.00 85

Contents: Linear vector spaces-matrices. Tensor theory. Geometry. Analytical mechanics. Relativistic mechanics. Mechanics of continuous media. Bibliography. Index.

Note: An introduction to tensor analysis written on the graduate level and planned for those interested in the applications of the sub-

ject rather than in its theory. No special field of application is emphasized, however; and in the words of the author, "Perhaps the best evidence of the remarkable effectiveness of the tensor apparatus in the study of Nature is the fact that it was possible to include, between the covers of one small volume, a large amount of the material that is of interest to mathematicians, physicists, and engineers. The treatment of relativistic mechanics is intentionally brief because the author felt no need to duplicate the contents of available books on relativity of which Bergmann, *An introduction to the theory of relativity* (New York, 1947) and *Relativistic Mechanics of relativity* (New York, 1950) are mentioned in the bibliography.

TARSKI, ALFRED

A decision method for elementary algebra and geometry. Second edition revised. By Alfred Tarski. Prepared for publication with the assistance of J. C. C. McKinsey. Berkeley Calif.: University of California Press, 1951. 63 p. illus. 28 cm. Paper \$2.75 86

Contents: Introduction. The system of elementary algebra. Decision method for elementary algebra. Extensions to related systems. Notes. Bibliography. Supplementary notes.

Note: In this monograph is presented a method for deciding on the truth of sentences of the elementary algebra of real numbers and hence also of elementary geometry. In mathematical research, both pure and applied, arise problems as to the truth of complicated sentences of elementary algebra or geometry. The decision method here presented gives the mathematician the assurance that he will be able to solve every such problem by working at it long enough. The publication is divided into three major sections: the first section contains a description of the system of algebra to which the decision method applies; in the second section the author develops the decision method itself in a detailed way; in the third, are discussed some extensions of the results as well as some related problems. The notes at the end contain, in addition to historical and bibliographical references, the discussion of various points of theoretical interest which are not directly related to the question of constructing a decision machine. A short bibliography of 24 items refers to the previous known writings in this field. The second edition is a photographic reproduction of the 1948 edition with misprints and minor flaws corrected and three additional pages of notes.

WADE THOMAS L.

The algebra of vectors and matrices. Cambridge: Addison-Wesley Press, Inc., 1951. 189 p. 22 cm. \$4.50 87

Contents: Basic concepts. Vectors of two and three dimensions. Vector methods in geometry; linear dependence of vectors. Vectors of discussion. Elementary properties of matrices. Related and special matrices. Groups, matrices, and transformations. The characteristic equation of a matrix. Rank of a matrix. Matrices and algebraic forms. Some applications of matrix algebra. Appendix. Bibliography. Index. Answers to exercises.

Note: An introduction for students to desire only working knowledge and who will not pursue the subject any further than this book. On the other hand, the treatment is developed against the background of modern algebra; hence it can be used as an introduction to the whole field of modern algebra.

WALKER, ROBERT JOHN

Algebraic curves. Princeton: Princeton University Press, 1950. 201 p. 24 cm. (Princeton mathematical series, edited by Marston Morse and A. W. Tucker. No. 13) \$4.00 88

Contents: Algebraic preliminaries. Projective space. Plane algebraic curves. Formal power series. Transformations of curves. Linear series. Index.

Note: An introductory text in algebraic geometry in order to keep the presentation simple, the book has been limited to the theory of curves. All theorems are proved, and exercises are included in the text for students to work. The study is carried as far as the theorems of Riemann-Roch.

ARITHMETIC AND THEORY
OF NUMBERS

DUBISCH, ROY

The nature of numbers, an approach to basic ideas of modern mathematics. New York The Ronald Press Company, 1952 159 p. illus. 22 cm. \$4.00 89

Contents: Counting from one to a googol. Writing numbers from one to a googol. God made the integers. Creation completed. Zero, plus and less. Fractions are easy now. The unspeakable. The great π enters. A shot in the arm for complex algebraists of the nineteenth century. How lasting was the shot? Last-minute edition of the Algebra reader. The author's lament. Appendix. Suggestions for further reading. Answers to problems. Index.

Note: A refreshing exposition of the nature or ideas of present-day mathematics. The author begins it by showing that the mathematics of common knowledge, particularly arithmetic, is based on the acceptance of abstractions. After this he takes up the basic concepts of mathematics such as matrix algebra and fraction theory. The book is written for laymen, and it should be useful to anyone who desires to learn what professional mathematicians consider themselves with.

JONES, BURTON WADSWORTH

The arithmetic theory of quadratic forms. New York The Mathematical Association of America. Distributed by John Wiley & Sons Inc., 1950 212 p. 19 cm. (The Carus mathematical monographs. No. 10) \$3.00 90

Contents: Forms with real coefficients. Forms with finite coefficients. Forms with rational coefficients. Forms with coefficients in $R(\sqrt{d})$. Orders and semi-orders. Representations by forms. Binary forms. Ternary quadratic forms. Bibliography. Problems. Theorem Index. Index.

Note: A self-contained presentation of this mathematical topic. The author has assumed that his readers will be familiar with matrix theory and the theory of numbers. The work is of interest to graduate students specializing in mathematics, and to professional mathematicians who need an introduction to this special subject. The author is a member of the faculty of the University of Colorado.

LARSSEN HAROLD DANIEL

Arithmetic for colleges. New York The Macmillan Company 1950 275 p. illus. 21 cm. \$4.00 91

Contents: Number. Counting out ideas and elements. Addition. Subtraction. Multiplication. Division. Common fractions. Decimal fractions. Percentages. Units of measure and dimensional relations. Approximate numbers and computations. Square root. Introduction to the study rules. References. Appendix. Index. Answers.

Note: An unusual treatment of arithmetic because it is designed primarily for college students. Rather than review of principles and techniques usually studied in elementary school, it is fresh treatment suitable for persons who will teach arithmetic in elementary schools and for schools who desire treatment for mature readers. The bibliography is selective but includes understanding "popular" treatments of mathematics, books on mathematical recreation, standard treatises on such topics as numbers, and books and articles on the teaching of arithmetic.

POLLARD HARRY

The theory of algebraic numbers. New York The Mathematical Association of America. Distributed by John Wiley and Sons Inc. 1950 142 p. 19 cm. (The Carus mathematical monographs. No. 9) \$3.00 92

Contents: Divisibility. The Gaussian prime. Polynomials over field. Algebraic number fields. Binary Algebraic integers and integral basis. Arithmetic in algebraic number fields. The fundamental theorem of ideal theory. Consequences of the fundamental theorem.

Class-numbers and Fermat's problem. Minkowski's lemma and the theory of units. References. Index.

Note: An introductory presentation of classical algebraic number theory. In general theorems are proved, but in the case of Galois and Schrodinger's theorems for the transcendence of algebraic numbers, the reader is referred to a paper in mathematical journal for the proof. The book is of interest to advanced students who are making mathematics, to mathematicians who are specialized in other fields but with some knowledge of this one, and to lay readers who are mathematically mature and pursue mathematics as a recreation.

STEWART, BONNIE MADISON

Theory of numbers. New York Macmillan Company, 1952 261 p. illus. 22 cm. \$5.50 93

Contents (abridged): Preliminary considerations. Mathematical induction. Representation of the integers. The fundamental theorem of arithmetic. Prime and composite integers. The least common multiple. Groups of transformations: matrices and determinants. Diophantine equations of the first degree. Pythagorean triples. Fermat's method of descent. Euler's phi-function. Introduction to the congruence notation. Linear congruences. Exponents, primitive roots, and indices. The quadratic reciprocity law. Sums of four squares. Introduction to quadratic forms. Fermat's theorem for the natural numbers. Rational numbers. Rational representations of rational numbers. The fundamental theorem of arithmetic. **Note:** An introductory text developed in courses given at Michigan State College.

ANALYSIS

BELLMAN RICHARD

A survey of the theory of the boundedness stability and asymptotic behavior of solutions of linear and non-linear differential and difference equations. Washington D. C. Office of Naval Research, Department of the Navy 1949 156 p. 27 cm. (Navexos P-596) Paper 94

Contents: Introductory. Boundedness, stability and asymptotic behavior of solutions of systems of linear differential equations. Theorems on stability. Theorems on boundedness. Theorems on asymptotic behavior. Non-linear differential equations: Methods. Stability. The equation $\dot{x}/dt = A + f(x)$, A constant. Conclusion. A(1) periodic matrix. Generalization to $\dot{x}/dt = A + f(x)/dt$. A(2) variable matrix. A general conclusion. A counter-example. One characteristic root zero. Asymptotic behavior of solutions. Transformation of equations. All characteristic roots zero. Solutions in trigonometric form. The magnitude of solutions of non-linear differential equations. Asymptotic behavior of solutions of special cases of equations. On the solutions of second order linear differential equations. A preliminary transformation. The boundedness of solutions of $\ddot{x} + Q(x) = 0$. Counter-example. 2. stability. Asymptotic behavior of solutions of $\ddot{x} + Q(x) = 0$. The Liapunov-Johnston-Wintner-Krasovskii approximation. The asymptotic behavior of solutions of $\ddot{x} + Q(x) = 0$. Periodic coefficients. Almost periodic coefficients. Oscillation of solutions of $\ddot{x} + Q(x) = 0$. Oscillation of solutions of $\ddot{x} + f(x) = 0$. Magnitude of solutions of $\ddot{x} + Q(x) = 0$. Non-oscillation theorems. Difference equations: The equation $x(n+1) = A(n)x(n)$, A constant matrix. An important lemma. The linear equation $x(n+1) = [A + B(n)]x(n)$. The non-linear equation $x(n+1) = A(n)x(n) + f(n)$. Asymptotic behavior of solutions. Magnitude of solutions of non-linear difference equations. Difference equations with arbitrary real spaces. **Note:** In this work are collected and correlated the known results of solutions to the class of differential equations of the form

$$\frac{dx}{dt} = f(t, x), \quad x(0) = x_0, \quad 1 \leq i \leq n$$

where x_0, x_1, \dots, x_n and f are real variables, class of differential equations for which practical applications have been found in such diverse fields as aerodynamics, astrophysics, and electronics. It is from survey of the literature of these fields as well as of mathematics, and with view to preventing further duplication and to stimulating research on outstanding problems, that the present work was compiled and published. As central theorems, three principal properties of solutions were selected: boundedness, stability and asymptotic behavior. The work includes bibliography, which appear at the ends of the chapters.

BERGMAN STEFAN

The kernel function and conformal mapping. New York American Mathematical Society 1950 161 p. 26 cm. (American Mathematical Society Mathematical surveys. no. v) \$4.00 95

Contents: Orthogonal functions. The kernel function and associated minimum problems. The invariant metric and the method of the minimum integral. Kernel functions and Hilbert space. Representations of the classical domain functions. Canonical conformal transformations. Orthogonal functions over the boundary. Variational methods. Existence proofs. Partial differential equations. Functions of two complex variables and pseudo-conformal mapping. Bibliography. Index.

Note: This survey presents a number of methods and principles which are of wide applicability in such branches of analysis as function theory, partial differential equations, differential geometry etc. The special emphasis here, however, is on conformal mappings. The underlying idea is to consider linear classes of functions in which norm can be introduced and the notion of orthogonality defined. For each complete system of orthogonal functions in the class, kernel function is defined. The classical domain functions, such as Green's and Neumann's harmonic measures, etc., are shown to be intimately related to the kernel function. Since the latter is defined in terms of an orthogonal system, it is possible to solve many conformal mapping problems numerically. To read this volume considerable mathematical background is required.

BERNSTEIN DOROTHY LEWIS

Existence theorems in partial differential equations. Princeton Princeton University Press 1950 228 p. illus. 25 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. No. 23) \$2.50 96

Contents: Introduction. The initial value problem and the problem of Cauchy for first order differential equations. Second order differential equations. Partial differential equations of order >2 . Bibliography.

Note: This study is intended to help the existence theorems used in solving partial differential equations, with special emphasis on those which may be utilized in the solution of such equations by means of digital computing machines. Two opposite approaches to the use of computing machines in problems involving partial differential equations are illustrated by (1) those persons who believe that computing machines can be used to solve all such problems if the equations are set up correctly and (2) those who will not attempt to use them in solving partial differential equations unless it can be shown to have at least one unique solution. In this book no attempt has been made to reach compromise by providing the reader with an opportunity to draw an analogy between his problem and the ones the author has worked out. This should enable him to see the solution easily for his problem. The author is Professor of Mathematics in the University of Rochester.

BOCHNER, SALOMON AND K. CHANDRASEKHAR

Fourier transforms. Princeton Princeton University Press, 1949 219 p. 23 cm. (Annals of mathematics studies. No. 19) Paper \$3.50 97

Contents: Fourier transforms in L_1 (one variable). Fourier transforms in L_1 (several variables). L_p -spaces. Fourier transforms in L_2 . General transforms in L_2 . General transform theorems. Notes. Glossary.

Note: A series of studies of interest to advanced graduate students and professional mathematicians. Altogether 95 theorems are stated and proved.

COURANT RICHARD

Dirichlet's principle, conformal mapping, and minimal surfaces. With an appendix by M. Schiffer. New York Interscience Publishers Inc. 1950 330 p. illus. 23 cm. (Pure and applied mathematics a series of texts and

monographs, edited by H. Bohr, R. Courant and J. J. Stoker) \$6.50 98

Contents: Dirichlet's principle and the boundary value problem of potential theory. Conformal mapping on parallel-plate domains. Plateau's problem. The general problem of Douglas. Conformal mapping of multiple connected domains. Minimal surfaces with free boundaries and unstable minimal surfaces. Bibliography. Appendix: Some recent developments in the theory of conformal mapping. Green's function and boundary value problems. Dirichlet's principle for harmonic functions. Variations of the Green's function. Bibliography to appendix. Index.

Note: Dirichlet's principle is of wide interest in analysis and higher geometry. In this book the author not only presents the principle and its proofs but illustrates the application of the concept to various problems in mathematics, especially problems of minimal surfaces. Though no applications to biology are indicated in the book, nevertheless the book's contents are applicable to such practical problems as the analysis or mapping of electromagnetic field.

FRANKLIN, PHILIP

Fourier methods. New York McGraw Hill Book Company, Inc., 1949 289 p. illus. 21 cm. \$5.00 99

Contents: Complex quantities. Impedance. Fourier series and integrals. Partial differential equations. Boundary value problems. Laplace transforms. Transients. Bibliography. Index.

Note: A brief and general introduction to the use of Fourier series and Laplace transforms. Emphasis is on mathematics rather than physics and the treatment assumes no previous knowledge of elementary calculus. The text is intended for college students majoring in applied mathematics, engineering, and physics, and the illustrative examples and review problems have particular application in these fields. The author is Professor of Mathematics at Massachusetts Institute of Technology.

GOLOMB, MICHAEL, AND MERRILL SHANKS

Elements of ordinary differential equations. New York McGraw Hill Book Company Inc., 1950 356 p. 24 cm. (International series in pure and applied mathematics William Ted Martin consulting editor) \$4.50. 100

Contents: Review and collection of formulas. Geometric interpretation for first-order differential equations. Techniques for solving first-order equations. Applications. Second-order differential equations. Linear differential equations of higher order. Constant coefficients. Algebra of linear operators. Systems of linear differential equations. Linear equations with variable coefficients. Solution in power series. Exact differential equations. Appendices. Bibliography. Answers. Index.

Note: An introductory textbook designed for use in courses offered to college students who have completed courses in elementary calculus. Special pedagogical features listed by the authors in the preface are: early emphasis on geometric and numerical methods, use of the superposition principle, use of the reference theorems in development of techniques, elementary but mathematically sound development of operational calculus, systems of equations treated carefully without use of matrices, use of Green's functions and elementary but precise treatment of power series. The authors are members of the faculty of Purdue University.

HALMOS PAUL RICHARD

Measure theory. New York D. Van Nostrand Company Inc. 1950 304 p. illus. 24 cm. (The university series in higher mathematics, Editorial board M. H. Stone, chairman) \$6.25 101

Contents: Sets and classes. Measures and outer measures. Extension of measures. Measurable functions. Integration. General set functions. Product spaces. Transformations and functions. Probability. Locally compact spaces. Haar measures. Measures and topology in groups. References. Bibliography. List of frequently used symbols. Index.

Note: This work is both a textbook for graduate students of mathematics and a treatise of interest to professional mathematicians. He is working in the more advanced areas of analysis and topology. The text proper is limited more or less to the fundamentals of measure theory but in certain of the exercises the author has assumed on the part of the reader knowledge of advanced concepts.

in topology, etc. Thus he has made the book an interest both to beginners and to those who do some previous work in the field. He is Associate Professor of Mathematics at the University of Chicago.

HOLMES, CECIL THOMAS

Calculus and analytic geometry. New York: McGraw Hill Book Company Inc., 1950. 416 p illus. 24 cm. \$5 00 102

Contents: Algebra and geometry in cooperation. Elements of the differential calculus. The conic sections. Maxima, minima, and inflections. First sections of the integral calculus. Algebraic functions. Circular arcs—rectors—parametric equations—arc length—area of surface of revolution. The logarithmic and the exponential functions—integrations by parts. The trigonometric functions. Calculus with the trigonometric functions—applications. Infinite series—expansion of functions. Ordinary differential equations. Solid analytic geometry. Differential calculus for functions of more than one variable. Integral calculus with functions of more than one variable. Variables but references. Answers to exercises. Index.

Note: An introductory textbook developed at Bowdoin College where the author is Professor of Mathematics. It is organized so that the student who stays with the course only through the fifth chapter will have been presented with survey of the main concepts and techniques of plane geometry and of calculus, while the student who takes the full course will in addition acquire considerable practice in the use of the calculus. Most theorems are proved.

KAPLAN WILFRED

Advanced calculus. Cambridge Mass: Addison Wesley Press Inc. 1952 679 p 24 cm. (Addison Wesley mathematics series Eric Reissner consulting editor) \$8.50 103

Contents: Introduction. Vectors. Differential calculus of functions of several variables. Vector differential calculus. Integral calculus of functions of several variables. Vector integral calculus. Infinite series. Fourier series and orthogonal functions. Ordinary differential equations. Functions of complex variable. Partial differential equations. Index.

Note: A college textbook for students who have completed courses in introductory algebra at the college level, analytic geometry and elementary calculus. Although fairly frequent discussion of applications—for instance the application of conformal mapping in hydrodynamics—believe that the book is designed for engineering students rather than for mathematicians, the treatment is thorough. Literature references accompany the chapters. The author is Associate Professor of Mathematics in the University of Michigan.

LEFSCHETZ, SOLOMON editor

Contributions to the theory of nonlinear oscillations. Princeton University Press, 1950 350 p. illus 24 cm. (Annals of mathematics studies edited by Emil Artin and Marston Morse, No. 20) \$4 00 104

Contents: On systems of ordinary differential equations, by E. P. DiBartol. Oscillations of third order nonlinear autonomous systems, by L. L. Reich. Nonlinear difference-differential equations, by F. H. Brownell. Forced oscillations in nonlinear systems, by M. L. Cartwright. Singular perturbations of Van der Pol equation, by J. G. Wendel. The existence of forced periodic solutions of second order differential equations near certain equilibrium points of the undamped equation, by C. K. Langford and A. R. Forsyth. The construction of periodic solutions of singular perturbation problems, by W. Wasow.

Note: A collection of short monographs on nonlinear periodic motions in dissipative systems. Most of them have been prepared as well as mathematical interest—in fact five of the papers were prepared under research contracts with the Office of Naval Research.

LEFSCHETZ SOLOMON editor

Contributions to the theory of nonlinear oscillations. Volume II. By M. L. Cartwright, E. A. Coddington, H. G. DelBagg, S. Lefschetz, N. Levinson, J. McCarthy and H. L. Turrittin. Princeton University Press, 1952 122 p. 26 cm. (Annals of mathematics studies. No. 29) Paper \$1.50 105

Contents: Van der Pol's equation for relaxation oscillations, by M. L. Cartwright. Perturbations of linear systems with constant coefficients possessing periodic solutions, by E. A. Coddington and N. Levinson. Dynamical systems with stable structures, by H. G. DelBagg. Notes on differential equations, by S. Lefschetz. A method for the calculation of limit cycles by successive approximations, by J. McCarthy. Asymptotic expansions of solutions of systems of ordinary linear differential equations containing parameter, by H. L. Turrittin.

Note: In this second collection of original contributions, all but one of the papers bear on the solution of oscillatory problems by techniques of differential equations. Literature references are included in both volumes.

McKELVEY JOSEPH VANCE

Calculus. Revised edition. New York: The Macmillan Company 1951 405 p illus. 22 cm. \$4.50 106

Contents (abridged): Differential calculus. Functions. Limits and continuity. Increments—derivatives. Differentiation of algebraic functions. Transcendental functions. Differentiation. Parametric equations. Rate theorems—mean value theorems—indeterminate forms. Functions of more than one variable. Curves. Singular points. Integral calculus: integration by parts—substitution—rational fractions. The definite integral. Length of arc—area of surface of revolution. Improper integrals. Multiple integrals. Field pressure—moments—work. Infinite series. Differential equations. Theory of limits—continuity. Answers to exercises. Table of integrals. Index.

Note: (120) An established introductory text in which the author has followed the pedagogical principle of illustrating new ideas first and giving deductions, terminology and theorems afterwards. The present edition represents moderate amount of revision with one newly added chapter many new problems, and numerous minor changes. The author is Professor of Mathematics in Iowa State College.

McKINSEY J C C

Introduction to the theory of games. The Rand Corporation. New York: McGraw Hill Book Company Inc. 1952 571 p illus. 24 cm. (The Rand series) \$6.50 107

Contents: Rectangular games. The fundamental theorem for rectangular games. The solution of rectangular games. A method of approximating the value of a game. Games in extensive form. Games in extensive form—general theory. Games with infinitely many strategies. Distribution functions. Infinite integrals. The fundamental theorem for continuous games. Repeated games. Games with convex payoff functions. Applications to statistical inference. Linear programming. Zero-sum n -person games. Solution of n -person games. Games without zero-sum restriction—the von Neumann-Morgenstern theory. Some open problems. Bibliography. Index.

Note: The subject of this work is the mathematical theory of games and strategy. The theory has application not only to such games as chess and poker, but also to military strategy, certain problems related to business competition, etc. However, applications are not stressed. The book is addressed to college students who have knowledge of introductory calculus and chemical algebra. Other mathematical concepts, such as the properties of matrices and distribution functions, are explained in the book. The author is a member of the faculty of Stanford University.

MARDEN MORRIS

The geometry of the zeros of a polynomial in a complex variable. New York: American Mathematical Society 1949 183 p. 26 cm. (American Mathematical Society Mathematical surveys, no. III) \$5 00 108

Contents: Introduction. The critical points of polynomial and some of their generalizations. Invariantive representation. Composite polynomials. The critical points of rational function which has its zeros and poles in prescribed circles. The critical points of polynomials which has only some prescribed roots. Research for the zeros as functions of all coefficients. Remarks for p zeros as functions of $p+1$ coefficients. The number of zeros in half-planes or sectors. The number of zeros in given circle. Bibliography. Index.

Note: The problems treated here center about the study of the zeros of polynomial as functions of various parameters, usually the

coefficients of the polynomial. The first contributors to this subject were Gauss and Cauchy. This survey is detailed exposition bringing together analyzing, and simplifying the many results at present scattered throughout the mathematical journals.

MAY KENNETH OWNSWORTH

Elementary analysis New York John Wiley & Sons, Inc. 1952 635 p illus. 22 cm. \$5 00 109

Contents: Introduction. Logic. Numbers and elementary operations. Linear functions. The quadratic function. The power functions. The exponential and logarithmic functions. Circular functions. Analytic geometry. The complex number system. Conic sections. Polynomials. Algebraic functions. Functions of two variables. Tables. Index.

Note: An introductory textbook for beginning college students. It provides a unified treatment of concepts and techniques from logic, number theory, algebra, analytic geometry, trigonometry and introductory calculus. It is characterized by patient and clear explanations. The author is Chairman of the Department of Mathematics in Carleton College.

MILLER FREDERIC HOWELL

Analytic geometry and calculus a unified treatment. New York John Wiley & Sons, Inc., 1949 658 p illus 22 cm. \$5.50 110

Contents: Fractional relations and loci. The straight line. Limits and the derivative concept. Differentiation of algebraic functions. The integral concept. Elementary applications of calculus. The circle. Coordinate transformations. The conic sections. Differentiation of transcendental functions. Integration processes. Particular equations. Further applications of differential calculus. Further applications of integral calculus. Polar coordinates. Polar plots, planes, and lines in space. Surfaces and curves in space. Partial differentiation. Multiple integrals. Indefinite series. Appendixes. Answers to odd-numbered exercises. Index.

Note: A deductive text of this college text is its integration of plane and solid analytic geometry with differential and integral calculus. The unified presentation is thought to have definite advantages over the study of analytic geometry and calculus as separate branches of mathematics. Numerous illustrative examples are worked out as part of the exposition. There are about 3,000 exercises for the student, and fair number of these illustrate applications in physics or engineering. The author is Professor of Mathematics in the Cooper Union School of Engineering.

MILNE, WILLIAM EDMUND

Numerical calculus approximations interpolation, finite differences, numerical integration and curve fitting. Princeton, New Jersey Princeton University Press 1949 393 p 24 cm. \$3 75 111

Contents: Elementary linear equations. Solution of equations by successive approximations. Interpolation. Numerical differentiation and integration. Numerical solution of differential equations. Finite differences. Divided differences. Rectangular differences. Polynomial approximation by least squares. Other approximations by least squares. Sample difference equations. Appendixes. Methods and symbols. Tables, tables, and bibliographies. Classified guide to formulas and methods. Tables. Index.

Note: The translation of theoretical analysis into numerical results is the basic theme in this book. Written for approaches undergraduate college students who have some knowledge of calculus and differential equations. It points the way to practical applications of more advanced mathematical methods. The specific methods covered are named in the chapter titles. The bibliography which is annotated, lists books and pamphlets on related techniques not covered in this work.

PHILLIPS HENRY BAYARD

Differential equations. Third edition revised. New York John Wiley & Sons, Inc. 1951 149 p illus 22 cm. \$3.00 112

Contents: Differential equations of the first order with variables separable. Other equations of the first order. Special types of second order equations. Linear equations with constant coefficients. Answers. Index.

Note: A standard textbook for use in undergraduate college courses. It is concisely and clearly written. Most of the examples worked out in the text illustrate applications in science and engineering. The author is member (emeritus) of the faculty of Massachusetts Institute of Technology.

POLYA, GYORGY, AND GABOR SKEGŐ

Isoperimetric inequalities in mathematical physics. Princeton Princeton University Press 1951 279 p 25 cm. (Annals of mathematics studies Emil Artin and Marston Morse, editors No 27) \$3 00 113

Contents: Definitions, methods and results. The principles of Dirichlet and Thomson. Applications of the principles of Dirichlet and Thomson to estimation of capacity. Circular plates condenser. Torsional rigidity and principal frequency. Nearly convex and nearly spherical domains. On symmetrization. On isoperimetric and isocapacity. On Dirichlet's isoperimetric. On continuous symmetrization. On spherical symmetrization. On generalization of Dirichlet's integral. Heat-conduction in a series. On membranes and plates. Virtual mass and polarization. Tables for some set-functions of plane domains. Bibliography. List of symbols.

Note: The purpose of this book is to facilitate the estimation of physical quantities on the basis of geometrical data, or the obtaining of less accessible quantities in terms of more accessible ones. The authors show that whereas the area enclosed by a curve can not be determined merely by knowing its perimeter the knowledge of the perimeter sets certain limits for the area. Other quantities such as the moment of inertia, with respect to the centroid, of homogeneous plane bounded by the curve, the isoperimetric ratio of the plane, the cross-section of which is bounded by the given curve, the principal frequency of clamped plates of the same size and shape, and the electrostatic capacity can be determined from the size and shape of the curve. The study is product of a project sponsored by the Office of Naval Research. An especially useful section is the tabular presentation of quantities in the final chapter.

RAINVILLE, EARL DAVID

Elementary differential equations. New York The Macmillan Company, 1952 392 p. illus. 21 cm. \$5 00 114

Contents: Definitions, estimation of arbitrary constants. Equations of the first order and first degree. Orthogonal trajectories. Hyperbolic functions. Linear equations with constant coefficients. Nonhomogeneous equations: undetermined coefficients—operator methods. Applications. Electric circuits and networks. Variation of parameters and other methods. Equations of order one and higher degree. Special equations of order two. The power series method. Solutions near regular singular points. The existence of solutions. Numerical methods. Partial differential equations. Fourier series. Boundary value problems. Index.

Note: A textbook designed for use in full-length, introductory courses in differential equations. Because particular attention is paid to methods of solving differential equations, it is especially suitable for students majoring in science or in engineering. However direct applications to problems in physics and engineering are concentrated in two chapters. The first 11 chapters are reprints of the material published in the author's *Short course in differential equations*, New York, The Macmillan Company 1949 210 p., \$2.00.

RANDOLPH JOHN F

Calculus New York The Macmillan Company 1952 483 p 24 cm. \$5 00 115

Contents: Functions, limits, derivatives. The definite integral. Applications of derivatives. Transcendental functions. Indefinite integration. Solid geometry. Partial derivatives. Multiple integrals. Further applications. Approximations. Series. Appendix. Table of integrals. Answers. Index.

Note: An introductory college textbook with several interesting pedagogical features. The author believes in the gradual introduction of important concepts and techniques, hence the exposition of ideas new to the student is usually introduced by the introduction to material that demonstrates the necessity for it. The direct connection between analytic geometry and calculus is shown in the first part. The derivatives of sine and cosine functions are introduced early and definite integrals are taken up before indefinite integrals. The author is Chairman of the Department of Mathematics of the University of Rochester.

REDDICK, HARRY WILFRED

Differential equations. Second edition. New York John Wiley & Sons, Inc., 1949 288 p. illus. 22 cm. \$3.75 116

Contents: Preliminary ideas. The formation of differential equations. Differential equations of first order. Linear equations with constant coefficients. Some special higher order equations. Simultaneous equations. The linear equation of second order. Series solutions. Answers. Index.

Note: (114) A standard introductory text. Although it is designed for use in both liberal arts and engineering schools, it is especially suited to the latter because of the preponderance of engineering problems. Only ordinary differential equations are dealt with. Major changes in this edition include new sections on hyperbolic functions and systems of curves, a new chapter on the linear equation of second order and many additional problems. Answers are given for all of the problems.

SCARBOROUGH JAMES BLAINE

Numerical mathematical analysis. Second edition. Baltimore The Johns Hopkins Press 1950. 511 p. illus. 24 cm. \$6.00 117

Contents: The accuracy of approximate calculations. Interpolation—interpolating—Newton's formulae of interpolation. Interpolation—central-difference formulae. Interpolation—Lagrange's formulae of interpolation. The accuracy of interpolation formulae. Interpolation with two independent variables—trigonometric interpolation. Numerical differentiation and integration. The accuracy of quadrature formulae. The solution of numerical algebraic and transcendental equations—equations in one unknown—Newton's method. Gauss's root-finding method for solving algebraic equations. The standard solution of ordinary differential equations—equations of the first order—equations of the second order and systems of simultaneous equations—the differential equations of vector fields—other methods of solving differential equations numerically. The numerical solution of partial differential equations. The numerical solution of integral equations. The control law of error and the principle of least squares. The practice of measurements. Empirical formulae. Harmonic analysis of empirical functions. Appendix. Tables of the probability integral. Index. Answers to exercises.

Note: (111) The principles of numerical analysis, methods for obtaining numerical results, and methods for checking the accuracy of these results are explicitly described in this work. Several methods are described for some operations. The operations include: number of vector couples and in some chapters—also approximation by power (or) vector functions of the one and functions of the various methods. The first edition was published in 1930. A good deal of revision and some reorganization has gone into this edition. The author is Professor of Mathematics at the United States Naval Academy.

SCHAEFFER, ALBERT CHARLES AND DON ALD CLAYTON SPENCER

Coefficient regions for schlicht functions. New York American Mathematical Society 1950 311 p. illus. (part col'd) 26 cm. (American Mathematical Society Colloquium publications. Vol. xxxv) \$6.00 118

Contents: (abstract) History of schlicht functions and elementary properties of the unit region. Variations of schlicht functions. The critical points of the differential equations. The \mathcal{R} structure. Functions which are regular in $|z| < 1$ and satisfy the differential equation. The length-area principle. Linear curves. Linear forms and the supporting surface. The portion of the boundary of \mathcal{R} corresponding to the single analytic disk. Parametrization of the boundary of \mathcal{R} . The region \mathcal{V} . A method for strengthening the conjecture $|f(z)| \leq 1$. The region of values of the derivative of schlicht functions. By Arthur G. A. Appendix. Bibliography. Index.

Note: This monograph is a presentation of the results of the investigations by the authors during the last few years of the study of extremal schlicht functions. Most of the material is new. In the calculus of variations there are two classical approaches: (a) study of specific problems using local variations (b) study of whole class of extremal problems and the investigation of the structure of the class as a whole. In this monograph the authors have sought to develop a systematic approach to problems of type (b). In order to have the treatment within manageable length the authors have confined themselves to extremal problems relating to finite number of

the coefficients in the Taylor expansion of functions which is regular and schlicht inside the unit circle. A chapter by Dr. A. G. A. in which he investigates the region of possible values of the derivative of schlicht function at a fixed point inside the unit circle provides further example of these methods.

SIEGEL, CARL LUDWIG

Transcendental numbers. Princeton Princeton University Press, 1949 102 p. 23 cm. (Annals of mathematics studies, Emil Artin and Marston Morse, editors. Number 16) \$2.00 119

Contents: The exponential function. Solutions of linear differential equations. The transcendence of π for irrational algebraic θ and algebraic $\alpha \neq 0, 1$. Elliptic functions. Bibliography.

Note: By explaining some special transcendence problems, it is attempted in this study to reveal a method of investigation which will be useful in the search for more general results and the formulation of theory of transcendental numbers. Rather than use a complex argument, the work is a collection of essays originally presented as lectures at Princeton University in 1944.

SPRAGUE ATHERTON HALL

Calculus. New York The Ronald Press Company 1952 576 p. illus. 24 cm. \$6.50. 120

Contents: Function—Limit—continuous function. The derivative. Further derivative formulae and techniques. Maxima and minima—initial rates. Inverse functions—parametric equations. The trigonometric functions. The exponential and logarithmic functions. Differentiability. Polar coordinates. Curvature. Curvature solutions. The mean value theorem. Curve tracing. Integrals. The definite integral. Geometric applications of the definite integral. Infinite series. Solid analytic geometry. Partial differentiation. Curves and surfaces in space. Multiple integrals. Table of integrals. Formulae for reference. Answers to problems. Index.

Note: An introductory textbook for college students who have completed courses in plane trigonometry and plane analytic geometry. In the words of the author: "The purpose of this book is to present the elements of the calculus as simply as possible without sacrificing rigor. Hence analysis proofs which might cause difficulty are accompanied by detailed explanation. Applications of the material to geometry and physics are shown and many illustrative problems are provided. The author is Professor of Mathematics in Auburn College."

THOMAS, GEORGE BRENTON JR.

Calculus and analytic geometry. Cambridge, Mass. Addison-Wesley Press, Inc. 1951 685 p. illus. 24 cm. (Addison-Wesley mathematics series Eric Reissner consulting editor) \$6.50 121

Contents: The role of change of function. Derivatives of algebraic functions. Applications. Integration. Applications of integration to physics. Plane analytic geometry. Polar coordinates. Transcendental functions. Hyperbolic functions. Methods of integration. Vectors and parametric equations. Determinants and linear equations. Solid geometry and vectors. Partial differentiation. Multiple integrals. Infinite series. Complex numbers and functions. Answers to problems. Index.

Note: An introductory textbook which was developed at the Massachusetts Institute of Technology where the author is Associate Professor of Mathematics. The exposition is slanted somewhat for students who are majoring in physics or engineering.

VON NEUMANN, JOHN

Functional operators. Princeton Princeton University Press, 1950 Volume 1, 261 p. Volume 2, 107 p. 26 cm. (Annals of mathematics studies, edited by Emil Artin and Marston Morse. Vol. 21-22) Vol. 1 \$3.50 Vol. 2, \$2.25 122

Contents: Volume 1. Measures and integrals. Point set theory. Outer measure. Measures. Inner measure. Properties of measures.

under transformation. Covering theorems. Non-measurable sets. Lebesgue integral. Monotonic functions. General measure functions and outer measures. Properties of the general integral. Volume II. The geometry of infinite spaces: Linear spaces. Linear operators. Countability. Indiscreteness.

Notes: A notable contribution to operator theory II is based on lectures that were given at the Institute for Advanced Study in the years 1933-34 and 1934-35 and is addressed to professional mathematicians and to other scientists with extensive mathematical experience.

WALSH JOSEPH LEONARD

The location of critical points of analytic and harmonic functions. New York: American Mathematical Society 1950. 384 p. 26 cm. (American Mathematical Society Colloquium publications. Vol. XXXIV) \$6.00 123

Contents: Fundamental results. Real polynomials. Rational functions. Rational functions with symmetry. Analytic functions. Green's functions. Harmonic functions. Bibliography. Index.

Notes: A classical problem in the study of the location of the zeros of the derivative (that is, the critical points) of polynomials $p(z)$ relative to the zeros (assumed given) of $p(z)$ itself. This book is concerned with the geometric problem in the plane of the complex variable, the determination of point sets depending on the zeros of $p(z)$ which contain all critical points of $p(z)$ point sets preferably bounded by easily constructed lines, circles, and conics, the book does not deal with the determination of critical points in an arbitrary region. The original theory was developed by Grace, Lucas, Laguerre, Joukowski, and others, was extended by Neuman to include the critical points of rational functions, and now the present comprehensive unified theory includes polynomials, rational functions, periodic functions, Green's functions, harmonic measures, and various other harmonic functions. Cases in which symmetry occurs are emphasized. Many of the methods are elementary and require no previous knowledge of the topic. The results are presented in a form convenient for reference, and are of significance in connection with conformal mapping, level curves of analytic and harmonic functions, extremal polynomials, extremal problems in analytic functions, potential theory and hydrodynamics.

WEINSTOCK ROBERT

Calculus of variations, with applications to physics and engineering. New York: McGraw Hill Book Company Inc. 1952. 326 p. illus. 24 cm. (International series in pure and applied mathematics, William Ted Martin consulting editor) \$6.50 124

Contents: Introduction. Background problems. Introductory problems. Isoperimetric problems. Geometrical optics—Fermat's principle. Dynamics of particles. Two independent variables—the vibrating string. The Sturm-Liouville eigenvalue-eigenfunction problem. Several independent variables—the vibrating membrane. Theory of elasticity. Quantum mechanics. Kinetostatics. Bibliography. Index.

Notes: The calculus of variations is usually treated as an area of pure mathematics. However it has wide applications in physics and engineering. This introductory book is devoted primarily to the basic concepts and techniques, but the examples that are worked out in the exposition and the problems that are included for the student to solve usually pertain to physics or engineering. For readers who are familiar with differential and integral calculus and basic physics, including the elements of modern physics.

ZYGMUND ANTONI AND OTHERS

Contributions to Fourier analysis. By A. Zygmund, W. Transue, M. Morse, A. P. Calderón and S. Bochner. Princeton: Princeton University Press 1950. 192 p. 26 cm. (Annals of mathematics studies. No. 25) Paper \$3.00 125

Contents: L²-approximation of best approximation, by S. Bochner. Dirichlet problem for domains bounded by spheres, by S. Bochner. The Fréchet variational and Fréchet convergence of double Fourier series, by M. Morse and W. Transue. Norms of distributions functions associated with bilinear functionals, by M. Morse and W. Transue. Notes on the boundary values of functions of several com-

plex variables, by A. P. Calderón and A. Zygmund. On the theorem of Hausdorff-Young and its extensions, by A. P. Calderón and A. Zygmund.

Note: The original papers named above are presented in this volume.

STATISTICAL METHODS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on bulk sampling. Presented at the fifty fourth annual meeting American Society for Testing Materials Atlantic City, N. J. June 18 1951. Philadelphia: American Society for Testing Materials 1952. 65 p. illus. 23 cm. (Special technical publication no. 114) Paper \$1.75 126

Contents: Introduction, by W. K. Downing. Materials handling for bulk sampling, by J. Mannes. Economic accumulation of resistance data in connection with bulk sampling, by L. Tresser and M. Lerner. Two-stage acceptance sampling by attributes, by C. W. Dunnett and J. W. Bishop. Coal sampling problems, by A. A. Gaudin. The analysis of variance in sampling, experienced, by W. M. Barthol. The design of coal sampling procedures, by W. M. Barthol.

Notes: A collection of original papers dealing with the methods of determining the average quality of products handled in bulk. The practical problems connected with the selection of true samples are discussed, but emphasis is placed on theory and on statistical methods. The discussions following each paper are a vital part of the symposium.

ANDERSON, RICHARD LORKE, AND T. A. BANCROFT

Statistical theory in research I, *Basic statistical theory* II, *Analysis of experimental models by least squares*. New York: McGraw Hill Book Company Inc., 1952. 399 p. illus. 24 cm. \$7.00 127

Contents: (abridged) Part I, *Basic statistical theory*: Probability. Univariate parent population distributions. Properties of univariate distribution functions. Bivariate and multivariate distributions and their properties. Derived sampling distributions and orthogonal linear functions. Derived sampling distributions—normal parent population. Introduction to point estimation and criteria of goodness. Interval estimation. Tests of hypotheses. Special case of chi-square. Part II, *Analysis of experimental models by least squares*: Regression analysis. General regression model with fixed variation. Computational methods and methods of analysis for general regression model. Curvilinear regression—orthogonal polynomials. Least squares for experimental design models. The analysis of designs in complete blocks. The analysis of incomplete-blocks designs. Factorial experiments. The analysis of covariance. Analysis of data with both random and fixed effects (mixed model). The recovery of interblock information in incomplete-blocks designs. Summary of needed research. Appendix. Index.

Notes: A book that is useful both as a text for college students and as a reference guide for scientists and other professional workers who make practical use of statistical theory and techniques, particularly in the design of experiments and the analysis of experimental results. The topics named in the chapter titles are treated in a clear, direct style and the authors have made frequent use of worked examples in their exposition of important points. The primary emphasis is on the basic theory but the treatment of this is definitely addressed to non-specialists in statistics and frequent mentions are made of applications. Selected literature references are included in the chapters.

BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY 1ST

Proceedings of the Berkeley Symposium on Mathematical Statistics and Probability held at the Statistical Laboratory Department of Mathematics, University of California, August 13-18 1945. January 27-29 1946

Berkeley Calif. University of California Press, 1949 501 p. illus. 27 cm. \$7.50 128

Contents: Philosophical foundations of probability, by H. Reichenbach. The place of statistics in the university, by H. Reichenbach. Discussion on Professor Hoeffding's paper. A paradoxical characterization of statistics, by A. H. Copeland. Remarks on computing the probability integral in one and two dimensions, by G. Pólya. Distributions which lead to linear regression, by R. Pin. Non-parametric statistical inference, by J. Wolfowitz. Remarks on characteristic functions, by G. Pólya. Statistical mechanics and its applications to physics, by V. F. Lotz. Systems and representative design of psychological experiments, with remarks on physical and social perception, by E. Bremer. Continuous random numbers and quantitative study of the general economy, by F. W. Douch. The mathematical formulation of strategic problems, by F. Bittner. The reality of regularities indicated by sequences of observations, by G. F. McKeown. Contributions to the theory of the X^2 test, by I. Maclean. Practical problems of matrix calculations, by H. Reichenbach. The statistical study of the genetic state system, by R. J. Thompson. Time series and harmonic analysis, by J. L. Doob. Some techniques for simple classification, by C. F. Koenig. An extension of an algorithm of Hoeffding, by A. T. Lomax. The limiting distribution of functions of sample means and application to testing hypotheses, by P. L. Hsu. On the theory of stochastic processes, with particular reference to applications, by W. Feller. Estimates of the Kolmogorov-Smirnov-Schellé test, by E. W. Barankin. Some comments on large sample tests, by E. L. Lehmann. The work of the California Forest and Range Experiment Station, by E. M. Wyckoff. The load-carrying factor in cattle-grazing experiments, by A. L. Horney and J. R. Bentley. The problem of sampling without replacement, by E. L. Lehmann. Long-term structural experiment on methods of testing, by A. A. Hall. Selecting problems in actual teaching, by R. S. Duggan and L. M. Lerner. When-best field trials, by G. A. Baker and F. M. Rogers. Statistical treatment of human parasites and host populations, by J. K. Halsey.

Notes: In this volume are published the original papers presented at the first Berkeley Symposium on Mathematical Statistics and Probability. The subjects range from experimental problems regarding statistical treatment through statistical theory to philosophical papers analyzing the concept of probability. Included is a group of papers on the experimental set-up best suited to making the services of mathematical statistics available to research workers in other fields. For the most part the papers are of an advanced nature and for that reason will chiefly interest professional mathematical statisticians. Most of the papers include bibliographical references.

BERKELEY SYMPOSIUM ON MATHEMATICAL STATISTICS AND PROBABILITY, 2ND

Proceedings of the second Berkeley Symposium on Mathematical Statistics and Probability held at the Statistical Laboratory Department of Mathematics, University of California, July 31-August 12, 1950 Edited by Jerzy Neyman. Berkeley University of California Press, 1951. 666 p. illus. 26 cm. \$11.00 129

Contents: Part I. Mathematical statistics. Asymptotic unbiased estimates of sequential point estimation problems, by A. Wald. Some applications of the Cramér-Rao inequality, by J. L. Hoeffding, K., and E. L. Lehmann. A generalized T test and measure of noncentrality, by H. Reichenbach. Two-sample intervals for linear regression, by W. A. Wallis. Repetitive and multiple estimates for quadratic loss functions, by M. A. Glicks and L. J. Savage. Confidence regions for linear regression, by P. O. Hsu. "Optimum" nonparametric tests, by W. Hoeffding. Comparisons of experiments, by J. H. Friedman. The asymptotic distribution of certain characteristic roots and vectors, by T. W. Anderson. Asymptotically unbiased estimates of nonparametric statistical decision problems, by H. Reichenbach. Characterization of the minimal complete class of decision functions when the number of distributions and decisions is finite, by A. Wald and J. Wolfowitz. On median tests for linear hypotheses, by G. W. Brown and A. M. Mood. Conditional expectation and convex functions, by E. W. Barankin. Part II. Probability. Wiener's random function, and other Laplace random functions, by P. Lévy. On some connections between probability theory and differential and integral equations, by M. Kac. Recent approaches to the nonrelativistic theory of probability, by R. D. Wentzel. The stochastic process in genetics, by W. Feller. Random graphs, theorems and Markov processes with stable distributions, by S. Karlin. A problem in random walk, by E. S. Lehman. Continuous parameter martingales, by J. L. Doob. On almost sure

convergence, by M. Loeve. Some mathematical models for branching processes, by T. K. Harris. A contribution to the theory of stochastic processes, by H. Ornstein. The strong law of large numbers, by K. L. Chung. Some problems on random walk in space, by A. Dvoretzky and P. Erdős. A remark on characteristic functions, by A. Zygmund. Random functions from a process, by E. Parzen. Part III. Astronomy. An approach to the dynamics of stellar systems, by R. Lindblad. The problem of stellar evolution considered statistically, by O. Struve. Statistical studies relating to the distribution of the elements of spectroscopic binaries, by K. L. Scott. Correction of frequency functions for observational errors of the variables, by R. J. Thompson. Hydrodynamical description of stellar motions, by L. G. Heccey. Part IV. Electricity. Improvement by means of selection, by W. O. Cochran. Relative precision of minimum chi-square and maximum likelihood estimates of regression coefficients, by J. Berkson. Part V. Econometrics. Nonlinear programming, by H. W. Kuhn and A. W. Tucker. Why "should" statistics and businessmen maximize "moral expectations"? by J. Marshall. An extension of the basic theorems of classical welfare economics, by K. J. Arrow. Part VI. Physics. The concept of probability in quantum mechanics, by R. P. Feynman. Statistical estimates in quantum theory, by H. W. Kuhn. Statistical mechanics of continuous media (with first appendix), by J. K. Knowlton. Philosophical problems of the statistical treatment of quantum mechanics, by V. F. Lotz. Contributions of physics for the ideal quantum gas, by G. Placzek. Part VII. Traffic engineering. Distribution of vehicle speeds and travel times, by D. A. Berry and D. M. Belmont. Statistical techniques in the field of traffic engineering and traffic research, by T. W. Fisher. Part VIII. Wave analysis. Corrections for Pacific Ocean waves, by P. Rabinovich. Experimental correlation analysis of artificial time series (with special reference to analysis of oceanographic data) by H. R. Schwab.

Notes: Original papers which were presented at the symposium issued in this book's title have been collected here. The authors include prominent scientists of the United States of America and several other countries, and in many instances their papers contain elaborate unpublished references in statistical methods.

BUROS OSCAR KRIEKEN, editor

Statistical methodology reviews 1941-1950
New York John Wiley & Sons, Inc. 1951
457 p. 27 cm. \$7.00 130

Contents: Preface. How to use this volume. Review writing and editing. Books and reviews. Periodical directory and index. Publishers directory and index. Index of titles. Index of names. Check-list index to books.

Notes: (Editor's) This reference work is both a guide to books on statistical method and application and a digest of reviews of them. Reviews are arranged alphabetically by names of authors of the books. Following each entry is an account of the book, with critical reviews published in professional journals. Many of the reviews are some hundreds of words long. The work is useful aid to librarians, scientists, etc., in selecting books on statistical methodology. It serves also to bring together books that are published in separate fields, for example, education and medicine. The editor has submitted it also to book reviewers and editors of reviewing periodicals in the hope that it will lead to improvement of published reviews. This is the third volume in the series.

CATTELL, RAYMOND BERNARD

Factor analysis: an introduction and manual for the psychologist and social scientist. Under the editorship of Gardner Murphy. New York Harper and Brothers 1952 462 p. illus. 22 cm. \$6.50 131

Contents: (editor's) Part I. Basic concepts in factor analysis. The place of factor analysis in scientific method. Interpretation of correlations of characters and factors. On obtaining factors from covariance matrix. Rotation of factors for scientific meaning. Factor estimation and the specification equation. The covariance chart and the possibilities of alternative, order and efficacy. Part II. Specific ideas and working methods. The chief alternative designs in factor analysis. Working methods for principal extraction including communality estimation. The clustering methods of factor extraction. The structural spatial computations in sections. The special problems of multiple factors. General techniques and criteria of factor methods. The laws of rotation by graphs. Part III. General technique and problems. The effects of errors. True factor numbers and the design of experiment. Branching variables by combinations of factor analysis with controlled experiment. Strategy and tactics of economy in computing. Glossary. Appendix. Detailed

steps in matrix multiplication by electronic digital calculator. Bibliography. Index of names. Index of subjects.

Note: In this book the techniques of factor analysis, statistical method of wide potential applications in psychology and the social sciences, are explained for the benefit of advanced college students and graduate research workers. As indicated in the title, the treatment is introductory but adequate material is included to enable the book to serve as a practical guide for students interested in the use of factor analysis. References from statements in the text to citations of source articles in the bibliography are carefully given. The author is Research Professor of Psychology and Director of the Laboratory of Personality Assessment and Group Behavior of the University of Illinois.

COCHRAN, WILLIAM GRIMMEL, AND GERTRUDE M. COX

Experimental designs. New York: John Wiley & Sons Inc., 1950. 454 p. 24 cm. (Wiley mathematical series W. A. Shewhart, editor) \$6.50. 132

Contents: Introduction. Methods for increasing the economy of experiments. Notes on the statistical analysis of the results. Completely randomized, randomized block, and Latin square designs. Factorial experiments. Confounding. Factorial experiments with main effects confounded; split-plot designs. Factorial experiments confounded in cross-class squares. Balanced and partially balanced incomplete block designs. Latin and cubic Latin designs. Balanced incomplete block designs. Latin squares. Incomplete Latin squares (Youden squares). Analysis of the results of some of experiments. Random permutations of 9 and 16 numbers. Selected bibliography. List of author references. Index.

Note: Interpretation of the range of data obtained in a series of experiments is a problem (sometimes rather complex one) in statistics. In most cases more valid conclusions can be drawn from observed data if the experiment is planned so as to satisfy the demands of sound statistical theory. This book presents detailed plans for some kinds of experiments designed for a variety of conditions. The pertinent statistical theory is outlined, but the authors have assumed that their readers will have some familiarity with the basic principles of the analysis of variance. The book is of interest to research workers in many fields of science.

DENING, WILLIAM EDWARDS

Some theory of sampling. New York: John Wiley & Sons Inc., 1950. 602 p. illus. 23 cm. \$9.00. 133

Contents (abridged): Part I. The specification of the probability required: The various errors of survey. Part II. Some elementary theory for designs: Moments and expected values. Multistage sampling, size-selection, and choice of sampling unit. Allocation in stratified sampling. Distinction between enumerative and analytic studies. Control of the data in acceptance sampling. Part III. Some theory for analysis and estimation of precision: The sample as a basis for action. Part IV. Applications of some of the foregoing theory: Experiments by sampling. A probability sample for Greece. Part V. Some further theory for design and analysis: Detailed study of some binomial and related distributions. The gamma and beta functions. Tests for hypotheses in normal theory. The distribution of the material and internal variances. Appendix: A page of random numbers. Index.

Note: This important contribution to the application of statistical theory deals with obtaining accurate information by counting or measuring only a portion of the "population" about which information is desired. This technique is often used in opinion polls, consumer surveys, census estimates, etc. It has application also to the planning of scientific experiments and interpretation of the results obtained. The work is written strictly from the viewpoint of applied statistics and is intended for professional workers and graduate students who have already mastered the elements of general statistical theory.

DIXON, WILFRED JOSEPH AND FRANK J. MASSEY, JR.

Introduction to statistical analysis. New York: McGraw-Hill Book Company Inc., 1951. 370 p. illus. 23 cm. \$4.50. 134

Contents: Introduction. Distributions. Introduction to measures of central value and dispersion. Uniform and sample. The normal distribution. Various measures of central value and dispersion. Statistical inference. The variance: estimation and tests of hypotheses. The mean: estimation and tests of hypotheses. Analysis of variance. Regression and correlation. Analysis of covariance. Enumeration statistics. Probability of accepting a false hypothesis. Microstatistics. Microstatistics. Nonparametric statistics. Sequential analysis. Sensitivity experiments. Appendix. Index.

Note: In this book statistics is viewed as "the science of super-empiricism." The work is a textbook written for basic statistics course to be taken by students from all fields in which statistics finds application. The order and emphasis of topics are largely based upon the recommendations for basic course in statistics stated by the Committee on Teaching of Statistics of the National Research Council. The appendix includes tables, etc., for reference work.

EDWARDS, ALLEN LOUIS

Experimental design in psychological research. New York: Rinehart & Company Inc., 1950. 446 p. illus. 22 cm. \$5.00. 135

Contents: The nature of psychological research. Principles of experimental design. Probability and experimental design. The normal and χ^2 approximations of the binomial probability. Experiments involving comparison of the difference between 2 frequencies or proportions. The application of the χ^2 distribution to research problems involving more than 2 degrees of freedom. Testing hypotheses about correlation coefficients. The t test and the significance of mean and difference between means. Heterogeneity of variance and the F test. An introduction to the analysis of variance. Heterogeneity of variance and transformation of the scale. The F factorial design for experiments in which variables are varied in only 2 ways. Complex factorial designs. Experimental designs involving matched groups. Experimental designs involving repeated measurements of the same subjects. The Latin square design in psychological research. Applications of the analysis of covariance. Bibliography. List of footnotes. Appendix. Index of names. Index of subjects.

Note: This book is concerned with the planning of experiments and with the analysis of experimental data, primarily in the fields of psychology, sociology and education. It presents for students in these fields standard techniques and some of the newer developments in statistical analysis, particularly with respect to small-sample theory. The reader or student needs working knowledge of algebra and an elementary knowledge of applied statistics in order to understand this work.

FELLER, WILLIAM

An introduction to probability theory and its applications. Volume one. New York: John Wiley & Sons Inc., 1950. 419 p. illus. 23 cm. (Wiley mathematical statistics series Walter A. Shewhart, editor) \$6.50. 136

Contents: Introduction: The nature of probability theory. The sample space. Elements of combinatorial analysis. Birkhoff's theorem. The simplest reciprocity and ordering problems. Combination of events. Conditional probability. Statistical independence. The binomial and the Poisson distributions. The normal approximation to the binomial distribution. Unlimited sequences of Bernoulli trials. Random variables—expectation. Laws of large numbers. Interval-valued variables—generating functions. Recurrent events—Theory. Applications to runs and renewal theory. Random walks and ruin problems. Markov chains. Algebraic treatment of finite Markov chains. The simplest time-dependent stochastic processes. Answers to problems. Index.

Note: In this work probability theory is presented rigorously as a branch of mathematics. The theorems are confined to mathematical concepts and theorems are proved. However, in order to increase the book's usefulness, material on practical applications has been inserted in various places and is distinctly marked so that readers who are interested only in the mathematical aspects can skip it. As the chapter titles indicate, elementary subjects are considered first, but rather advanced ones are taken up in the last chapters. The work is designed for use as a textbook in advanced college classes, but it is potentially of interest to persons out of college who are beginning to work in fields where thorough knowledge of probability theory is essential.

GORE, W. L.

Statistical methods for chemical experimentation. New York: Interscience Publishers, Inc. 1952 210 p. illus. 18 cm. \$3.50. 137

Contents: Introductory. Statistical concepts. The reliability of estimates. Analysis of variance. Design of experiments. Correlation and regression. Attribute statistics. Appendix: Tables. Index to formulas. Glossary. Bibliography. Subject index.

Note: A useful, relatively brief collection of the statistical methods most used in the design of chemical experiments at the Du Pont Experimental Station, with which the author is associated. The style is direct and explicit. The book is well suited for the guidance of practical chemists; he do not have time to master statistical theory. Books which offer fuller treatments are listed in the suggested bibliography.

GOULDEN, CYRIL HAROLD

Methods of statistical analysis. Second edition. New York: John Wiley & Sons, Inc., 1952 467 p. 24 cm. (Wiley publications in statistics; Walter A. Shewhart editor) \$7.50. 138

Contents: Introductory concepts. Variation, statistics, and the frequency table. Theoretical frequency distributions. Tests of significance. The analysis of variance. Linear regression analysis. Correlation. Partial and multiple regression and correlation. The analysis of covariance. Non-linear regression. Basic experimental design. Factorial experiments. Incomplete block experiments. The treatment of non-orthogonal data. Coefficients of fit. Tests of independence. The discriminant function. Profit analysis. Quality control and sampling for inspection and verification. Appendix. Index.

Note: (347) A text and reference book designed for research workers in the sciences. There is more emphasis on experimental design in the fields of agriculture and biology. However, this emphasis is not heavy enough to lessen the value of the book for students and scientific workers in other fields such as psychology. The first edition appeared in 1933. This edition represents very extensive revision and considerable increase in size. Each of the chapters is supplemented by a substantial list of the pertinent literature. The author is Chief of the Central Division of the Central Experimental Farm in Ottawa, Canada.

GUILFORD, JOY PAUL

Fundamental statistics in psychology and education. Second edition. New York: McGraw-Hill Book Company, Inc. 1950. 633 p. illus. 24 cm. (McGraw-Hill publications in psychology; Clifford T. Morgan consulting editor) \$5.75. 139

Contents: Counting and summing. Frequency distributions. Measures of central tendency. Measures of variability. Cumulative distributions and percent. The normal distribution curve. Correlation. The stability and significance of statistics. Introduction to analysis of variance. Factorial hypothesis. Test scores and percent. Special conclusions, methods and problems. Prediction of attributes. Prediction of measurements. Multiple prediction. Reliability of measurements. Validity of measurements. Scaling procedures. Appendix: Some selected mathematical proofs and derivations. Tables. A glossary and index of symbols. Author index. Subject index.

Note: (348) An introductory work for students interested in the applications of statistics in the two fields mentioned in the title. The first edition was strictly a textbook but in the present the work has been expanded so much that it can be used also as a working manual by practises. It was almost completely rewritten for this edition and is now approximately about twice as large.

HOUSEHOLDER, ALSTON S., AND OTHERS, editors

Monte Carlo method. Proceedings of a symposium held June 29-30 and July 1 1949 in Los Angeles, California, under the sponsorship of the Rand Corporation, and

the National Bureau of Standards, with the co-operation of the Oak Ridge National Laboratory. Edited by A. S. Householder with the assistance of G. E. Forsythe and H. H. Germond. Washington: D. C. Government Printing Office, 1951 42 p. illus. 26 cm. (United States National Bureau of Standards. Applied mathematics series 12) Paper \$0.30. 140

Contents: Reviews presented by low-energy electrons and photons, by R. R. Wilson. An algorithm chart for Monte Carlo solution of the transport problem, by R. L. Spencer, G. H. Goertzel, and W. R. Snyder. Krutov's age calculations in chains applied to particle transmission through matter, by W. C. De Marco and L. Wilson. Stochastic methods in statistical mechanics, by G. W. Klay. Report on Monte Carlo calculations performed with the Eniac, by M. Mayer. Calculation of shielding properties of water for high energy neutrons, by F. C. Hammer. A Monte Carlo technique for estimating particle attenuation in bulk matter, by R. A. Shier and others. Estimation of particle transmission by random sampling, by H. Kahn and T. R. Martin. History of RAND's random digits—summary, by G. W. Brown. The add square method of generating digits, by F. C. Hammer. Generation and testing of random digits at the National Bureau of Standards, Los Angeles, by G. W. Forsythe. Various techniques used in connection with random digits, by J. von Neumann. Revised table derivation summary, by E. H. Germond.

Note: Here are reprinted most of the papers presented by physicists and others at a symposium held in 1949 at the University of California, Los Angeles. The audience for these papers included professional mathematical statisticians. The papers tell of initial efforts to apply the Monte Carlo method—which involves simulation of sampling theory and statistical analysis—made almost independently by members of different groups and individuals. The round-table discussion at the close of the symposium presented criticisms and suggestions and evaluations of the Monte Carlo method as contribution to the art of computing.

JOHNSON PALMER OLIVER

Statistical methods in research. New York: Prentice-Hall, Inc. 1949 377 p. illus. 24 cm. \$6.65. 141

Contents: The basis of statistics. Probability and binomial, sampling distributions. The testing of statistical hypotheses. Current procedures in testing statistical hypotheses. The estimation of population parameters. Normal and non-normal distributions in statistics. Statistical analysis of data under normal assumptions. Sampling theory and practice. Analysis of variance and covariance. Applications of the analysis of variance and covariance method. The principles of experimental design. Applications of the principles of experimental design. Multiple regression problems. Appendix: Table of normal distribution. Table of t . Table of X^2 . Table of F . Table of z . Index.

Note: An intermediate-level work designed to provide students in the biological and social sciences with the knowledge of statistical principles and techniques which are necessary in designing experiments and observational projects and for analyzing and interpreting the results. The author has assumed that the users of the book will have had course in introductory or descriptive statistics.

KIMPTHORNE, OSCAR

The design and analysis of experiments. New York: John Wiley & Sons, Inc. 1952 631 p. 24 cm. (Wiley publications in statistics; W. A. Shewhart editor) \$8.50. 142

Contents: (abridged) The principles of experimental design. Elementary statistical notions. An introduction to the theory of least squares. The general linear hypothesis or multiple regression and the analysis of variance. The analysis of multiple classification. Randomization. Latin squares. Plot technique. The sensitivity of randomized block and split-plot experiments. Experiments involving several factors. Experiments involving factors with 3 levels. Split-plot experiments. Fractional replication. Quantitative or lot sizes and acceptance block designs. Partially balanced incomplete block designs. Experimental designs. Balanced incomplete block designs. Partially balanced incomplete block designs. Experiments on active properties and power of experiments. Treatments applied in sequence. Appendix. Index.

Note: This book encompasses experimental designs by Cochran and Cox, described above. It contains much fuller exposition of

Omery and also discusses in more detail the bases of experimental design. However, it is intended primarily for the same audience, that is, advanced college students and other persons whose interest in statistics is based on their concern with experimental investigation in some field of science. For many years the author was engaged in statistical work at Rothamsted Experimental Station in England. He is now Professor of Statistics at Iowa State College.

McNEMAR, QUINN

Psychological statistics. New York John Wiley & Sons Inc. 1949 364 p. illus. 22 cm. (Wiley publications in psychology Herbert S. Langfeld advisory editor) \$5 00 143

Contents: Introduction. Tabular and graphic methods. Describing frequency distributions. The normal curve and probability sampling errors and statistical inference. Correlation: introduction and computation. Correlation: interpretations and assumptions. Factors which affect the correlation coefficient. Multiple correlation. Other correlation methods. Frequency comparison chi square. Small sample methods. Analysis of variance: simple. Analysis of variance: complex. Analysis of variance: covariance method. Notes on sampling and statistical inference. Exercises. Appendix (tables) Index.

Note: A textbook intended for use by one-year college course. Its purpose is "to acquaint the student with the statistical techniques commonly used, to suggest economical computational procedures, and to state the assumptions and limitations of the various techniques. Sampling is fully covered, and three chapters are devoted to the meaning of the analysis of variance. The author is Professor of Psychology Statistics, and Education at Stanford University.

MANN, H. B.

Analysis and design of experiments analysis of variance and analysis of variance designs. New York Dover Publications Inc. 1949 198 p. 20 cm. (The Dover series in mathematics and physics, W. Prager consulting editor) \$2 95 144

Contents: Chi-square distribution and analysis of variance distribution. Matrices, quadratic forms and the multivariate normal distribution. Analysis of variance in one way classification. Likelihood ratio tests and tests of linear hypotheses. Analysis of variance in two-way classification designs. The power of analysis of variance tests. Latin squares and incomplete balanced block designs. Galois fields and orthogonal Latin squares. The construction of incomplete balanced block designs. Non-orthogonal designs. Fractional experiments. Randomized designs, randomized blocks and quadratized designs. Analysis of covariance. Interblock estimates and interblock variance. Tables.

Note: A brief but good introduction to statistical methods which are applicable to the design of scientific experiments. The author, who is Professor of Mathematics in Ohio State University, had three groups of readers in mind: mature mathematicians who wish to acquire an understanding of the analysis of variance and of variance designs; advanced undergraduates and graduate college students in need of a short textbook; and practical experimenters and statisticians who wish to grasp the mathematical principles and methods underlying the statistical applications. The exposition sticks closely to the bare essentials of the subject. Frequent references are made to other books in which full treatments of basic mathematical concepts and techniques are available.

MOOD ALEXANDER MCFARLANE

Introduction to the theory of statistics. New York McGraw-Hill Book Company Inc., 1950 433 p. illus. 24 cm. \$5.50 145

Contents: Introduction. Probability and combinatorial methods. Discrete distributions. Distributions for continuous variates. Expected values and moments. Special continuous distributions. Sampling. Point estimates. The multivariate normal distribution. Sampling distributions. Interval estimation. Tests of hypotheses. Regression and linear hypotheses. Experimental designs and the analysis of variance. Sequential tests of hypotheses. Distribution-free methods. Tables. Index.

Note: Although theory rather than applications is covered in this college text, the book is addressed to student scientists who will be more concerned with applications. The review problems illustrate applications in several fields of science. A knowledge of elementary calculus is presumed, and the treatment is set mathematically rigorous. Discussions of essential points are full rather

than concise and the author's style reads easily hence the book is suitable one for the graduate scientist in need of an introduction to be studied without an instructor. The author is on the staff of the Rand Corporation.

MORSE, PHILIP MCCORD, AND GEORGE E. KIMBALL

Methods of operations research. First edition revised. New York Published jointly by The Technology Press of Massachusetts Institute of Technology and John Wiley & Sons Inc., 1951 158 p. illus. 28 cm. \$4 00 146

Contents: Introduction. Probability. The use of measures of effectiveness. Statistical kinematics. Tactical analysis. Quantity and bombardment problems. Operational experiments with equipment and tactics. Organizational and procedural problems. Tables. Bibliography Index.

Note: This book deals with the application of statistical techniques to the evaluation of specific alternative procedures in military strategy business operations, etc. During World War II the techniques explained were applied to such varied operations as the depth bombing of submarines and the protection of ships against Japanese missile planes. Though most of the examples given in this book are drawn from military and naval applications, the general principles and the methods described are fully applicable to a variety of problems in administration. From this standpoint the book is of interest to industrial engineers, business executives, and also to scientists concerned with the planning of experiments.

NEYMAN, JERZY

First course in probability and statistics. New York Henry Holt and Company 1950 350 p. illus. 24 cm. \$5 00 147

Contents: Introduction. Scope of the theory of probability and statistics. Probability. Probabilistic problems in genetics. Random variables and frequency distributions. Elements of the theory of testing statistical hypotheses. Appendix: Tables of the normal integral. Index of names. Index of terms.

Note: A college text designed to meet the needs of two types of students—those who study the subject as general education course and those planning to specialize in the subject or its fields of application. Most of the content is elementary and the treatment possesses only knowledge of high school mathematics. However, some advanced material is included, which can be used or omitted at the instructor's discretion. The author is associated with the Statistical Laboratory of the University of California.

REICHENBACH HANS

The theory of probability an inquiry into the logical and mathematical foundations of the calculus of probability. Second edition. English translation by Ernest H. Hutten and Maria Reichenbach. Berkeley and Los Angeles University of California Press 1949 492 p. illus. 24 cm. \$12.50 148

Contents: Introductory considerations. Introduction to symbolic logic. Elementary calculus of probability. Theory of the order of probability sequences. Probability sequences with conditional events. Continuous extensions of the concept of probability sequences. The frequency properties of probability sequences. Theory of probabilities of higher level. The problem of application. Probability logic. Index. Tables.

Note: The first English-language edition of a notable work which appeared first as *Wahrscheinlichkeitslehre*, 1935. It presents a comprehensive system of probability based upon mathematical, philosophical, and logical methods of reasoning. One of the key notions is the replacement of classical induction by statistical induction which leads to predictions about sequences of events rather than individual events. The theory is important not only in mathematics but also in modern physics. In comparison to the original edition, this one contains many revisions and rearrangements by the author who is now Professor of Philosophy in the University of California.

WALD ABRAHAM

Statistical decision functions. New York John Wiley & Sons, Inc. 1950 179 p. illus.

23 cm. (Wiley publications in statistics, W. A. Shewhart editor) \$5.30 149

Contents: The general statistical decision problem. Definitions and preliminary discussion. Zero sum two person games with infinitely many strategies. Development of the general theory of statistical decision functions. Properties of Bayes solutions when the chance variables are independently and identically distributed and the cost of experimentation is proportional to the number of observations. Application of the general theory to various special cases. Bibliography Index.

Note: An important contribution to statistical theory. It contains the first full statement of the general theory of statistical decision functions. The work has particular application to multi-stage adaptive experiments, quality control procedures, etc., where steps beyond the first are selected or modified on the basis of the results of the first experiment or sample. However it is written on the theoretical plane, and is chiefly of interest to persons, be they experts in statistics or who at least have fair knowledge of basic statistical theory and technique.

YOUNG, WILLIAM JOHN

Statistical methods for chemists. New York: John Wiley & Sons, Inc., 1951 126 p. 23 cm. \$3.00. 150

Contents: Precision and accuracy. The measurement of precision. The comparison of averages. The evaluation of errors. Statistics of the straight line. The analysis of variance. Interaction between factors. Requirements for data. Arrangements for improving precision. Experiments with several factors. List of publications referred to in the text. Appendixes: Critical values of t . Critical values of F at 5 per cent level. Critical values of F at 1 per cent level. Table of square roots. Index.

Note: In this book both statistical theory and practice are largely absent, and the text is confined to exposition of statistical techniques that will be useful to chemists in planning experiments and in interpreting data derived from experiments. Brevity has been achieved by limiting the scope rather than by compact treatment. Discussions of the points that are included are adequately full and include some worked examples. The author is associated with the National Bureau of Standards, is recognized expert on statistical methods, in addition to being noted research chemist.

TOPOLOGY

EILENBERG SAMUEL and NORMAN STERN ROD

Foundations of algebraic topology. Princeton, N. J.: Princeton University Press, 1952 328 p. 24 cm. (Princeton mathematical series editors: Marston Morse and A. W. Tucker No. 15) \$7.50 151

Contents: Axioms and general theorems. Singuliferous complexes. Homology theory of simplicial complexes. Categories and functors. Chain complexes. Fundamental homology theory of simplicial complexes. The singular homology theory. Systems of groups and their limits. The Čech homology theory. Special features of the Čech theory. Applications to various cases. Index.

Note: An introduction to homology theory for advanced students of mathematics and graduate mathematicians who are familiar with the concepts of algebra and of point set topology. It uses the authors' words "The principal contribution of this book is an axiomatic approach to the part of algebraic topology called homology theory. It is the oldest and most extensively developed portion of algebraic topology and may be regarded as the main body of the subject. The present axiomatization is the first which has been given. The dual theory of cohomology is likewise axiomatized."

LIFSCHITZ SOLOMON

Introduction to topology. Princeton: Princeton University Press, 1949 218 p. illus. 24 cm. (Princeton mathematical series, edited by Marston Morse and others) \$4.00 152

Contents: Introduction. Survey of some topological concepts. Basic information about sets, spaces, vectors, groups. Two-dimensional polyhedral topology. Theory of complexes. Transfinite induction of complexes—simplicial approximations and related questions. Further prop-

erties of homology—fixed points—fundamental group—homology groups. Introduction to manifolds—duality theorem. Bibliography. List of symbols. Index.

Note: A text designed for the use of graduate students of mathematics. The first three chapters survey the basic concepts of topology with emphasis on the principles of algebraic topology. The remainder of the volume is concerned with the fundamentals of polyhedral topology. Because of the introductory nature of the book the author has not attempted to include proofs for all propositions. Review problems are given in each chapter and the references cited in the bibliography are limited to those which will be of value to the beginner in topology.

STEENROD, NORMAN

The topology of fibre bundles. Princeton, N. J.: Princeton University Press, 1951 224 p. illus. 24 cm. (Princeton mathematical series editors: Marston Morse and A. W. Tucker No. 14) \$5.00 153

Contents (abridged): Part I. The general theory of bundles: Cartesian bundles and fibre bundles. The product bundle. The Eilenberg-Wilenstein definition of bundles. Factor spaces of groups. Associated bundles and relative bundles. Homotopies of maps of bundles. Covering spaces. Part II. The homotopy theory of bundles: Homotopy groups. Universal bundles and the classification theorem. The fibering of spheres by spheres. The homotopy groups of spheres. The homotopy groups of continuous mappings. On the non-existence of fibrations of spheres by spheres. Part III. The cohomology theory of bundles: Bundles of coefficients. The obstruction theory. The primary obstructions of two cross sections. The Whitney characteristic classes of a sphere bundle. Complex analytic manifolds and exterior forms of degree 2. Bibliography. Index.

Note: The concept of fibre bundles as a phase of algebraic topology was first formulated in 1935. This treatise provides a systematic account of the development of the subject from that time to the present time. It offers both that is new to mathematicians acquainted with the subject, but rather presents in organized form the theory as it stands today. The author is Professor of Mathematics at Princeton University.

WILDER, RAYMOND LOUIS

Topology of manifolds. New York: American Mathematical Society, 1949 395 p. 26 cm. (American Mathematical Society Colloquium publications, Vol. XXXI) \$7.00. 154

Contents: Elementary concepts; characterizations of \mathbb{R}^n and \mathbb{R}^n locally connected spaces; topological properties of the Euclidean n -sphere. Free spaces; characterizations of \mathbb{R}^n and the 2 -sphere. Non-metric LC spaces, with applications to subsets of the 2 -sphere. Basic algebraic topology. Local connectedness and local co-connectedness. Application of homology and cohomology theory to the theory of manifolds. Generalized manifolds; definition of the Poincaré and Alexander type. Further properties of n -G.M.S., regular manifolds and generalized n -cells. Submanifolds of manifolds; decomposition into cells. LC subsets of an n -G.M. Accessibility and its applications. Appendix. Bibliography. Index.

Note: This is a well-constructed book, which can serve as an introduction to topology. Properties of general topological spaces, compact spaces and continua, homology and cohomology theory of general spaces are developed, with applications to Euclidean spaces, local connectedness and continua. Manifolds are characterized topologically among the general topological spaces; the classical manifolds forming special cases of the generalized type. Basic duality theorems of the Poincaré and Alexander-Poincaré type are established, and both the local and large properties of manifolds studied.

GEOMETRY

ALBERT ABRAHAM ADRIAN

Solid analytic geometry. New York: McGraw-Hill Book Company Inc., 1949 162 p. illus. 24 cm. \$3.50 155

Contents: Coordinates and lines. Planes. Surfaces and curves. Spheres. Quadric surfaces. Theory of matrices. Relations of area and applications. Spherical coordinates. Elements of projective geometry. Index.

Note: A textbook in which the author has used the algebraic vector approach to the subject in order to be at up with the theory of vec-

ASTRONOMY

GENERAL

BAKER, ROBERT H.

Astronomy a textbook for university and college students. Fifth edition. New York: D. Van Nostrand Company, Inc., 1951. 526 p. illus. 23 cm. \$4.00 168

Contents: Aspects of the sky. The earth in motion. Time and place. Light and the telescope. The moon. Eclipses of the moon and sun. The solar system. The other planets. The solar system, considered. The sun. The stars. Variable stars. Binary stars. Stellar atmospheres and interiors. Interstellar dust and gas. Star clusters. The galactic system. Extragalactic systems. References books. Index.

Note: (1949) A revised edition of this standard, introductory college textbook of which the first edition was published in 1930 and the fourth in 1944. The addition of information on such topics as meteors, interstellar dust, and the discovery of pulsars to the problems that are undergoing investigation today. Only an elementary knowledge of physics and mathematics is required for use of the book.

BUDDHUE, JOHN DAVIS

Meteoritic dust. Albuquerque. The University of New Mexico Press, 1950. 102 p. illus. 23 cm. (University of New Mexico Publications in meteoritics. No. 2) A monograph of the Institute of Meteoritics of the University of New Mexico. Lincoln LaPaz and Frederick C. Leonard, editors. 169

Contents (abridged): Historical review. Methods of collecting dust. Types of particles. Size at particles. Physical tests. Chemical tests. The cometary deposit. Dust in soil and new. Interstellar matter. The origin of meteoritic dust. The size of fall of meteoritic dust. Appendixes. Details concerning school particles. Localities where deep-sea spheres have been found. Bibliography.

Note: The brief historical review with which the study opens is accompanied with historical references of previous studies of meteoritic dust. From page 25 to the end of the volume the methods and results of the author's own studies are presented and are related to previous studies by other investigators. Detailed data on the aspects of the subject which are named in the contents above are presented and discussed. A bibliography of 108 literature citations and plates containing 16 photographs of dust specimens are included.

KROODAHL, WASKLEY SVEN

The astronomical universe an introductory text in college astronomy. New York: The Macmillan Company, 1952. 599 p. illus. 24 cm. \$6.25 170

Contents: Introduction. Part I. The solar system. How the system behaves. Earth and sky. The moon. The planets. The lower bodies of the solar system. Part II. The anatomy of a star. The sun. Part III. The stellar population: How do we know? The vital statistics of the normal stars. The peculiar stars. Part IV. The organization of the universe: The Milky Way galaxy. All else. Part V. The evolution of the universe: Beginnings and endings. Appendixes: The constellations. The magnitude system. Telescopes and observatories. Bibliography. Index. Star maps.

Note: A textbook designed chiefly for college students who take course in astronomy for its cultural rather than professional value. As might be expected, it contains no advanced mathematics, in fact, little mathematics of any kind. Nevertheless the author has succeeded well in describing the general content of astronomy showing how

astronomers arrive at their principal deductions, and in conveying picture of the nature and complexities of the universe. The 275 illustrations include reproductions of some remarkable photographs taken at the Mt. Wilson-Palomar Observatory and other observatories.

LEE, OLIVER JUSTIN

Measuring our universe from the inner atom to outer space. New York: The Ronald Press Company, 1950. 170 p. illus. 22 cm. \$3.00 171

Contents: The measure of distance. How our units of distance developed. Precision measuring machines. The scale of light years. Man lives by parallels. Distance to the sun—parallax of the pole. Our little solar system. Accuracy is like the flavor of words used. Private interviews with stars. Spectra yield the distances of stars. Michelson plays with light. Cepheid variables tell some secrets. The giant reducer of Palomar: the Hale telescope. Thanking it over. Appendix. Index.

Note: In this interesting book the author tells how units of measurement were evolved, covers an idea of the importance of precision measurement, and describes the techniques that are used by scientists in making precise measurements. Most of his text pertains to measurement in astronomy but the book has appeal beyond the area of this field. Lay readers of science should find it interesting, whether or not they are interested in astronomy. The book replaces the author's *Astrophysical journey* (Boston, 1948) and is contains much material not in that work.

MAYALL, ROBERT NEWTON, AND MARGARET L. MAYALL

Skyhooting, hunting the stars with your camera. New York: The Ronald Press Company, 1949. 174 p. illus. 24 cm. \$3.75 172

Contents: Looking it over. Star trails. American Meteors. Stars. Variable stars—new stars—comets. Clusters and nebulae. The sun. The moon. The planets. Film for the handy plates and film. Developing, printing, enlarging. Sidereal (star) time. Measuring with mechanical drives. How to use the setting circles. Keeping records. Appendix. The library index.

Note: An excellent book on a subject which has seldom been treated from the standpoint of amateur photographers or astronomers. Considerable points is made of the fact that sensitive photographic equipment is not essential. Only about fifteen pages are devoted to discussions of cameras, film, and related photographic apparatus. The remainder of the book deals with the categories of astronomical objects which are available for photographing, and with the popular techniques of star photography which are within the reach of most amateurs. The junior author is on the staff of the Harvard College Observatory.

NININGER, HARVEY HARLOW, AND ADDIE D. NININGER

The Nininger collection of meteorites, a catalog and a history. Winslow, Arizona: The American Meteorite Museum, 1950. 144 p. illus. 26 cm. \$3.00 173

Contents: Introduction. Maps. Catalog. Field notes. Summary. Supplement. Appendix. Explanation of plates. Plates.

Note: Most of the space in this book is devoted to detailed listing of the meteorites in the Nininger collection, which is now known as the American Meteorite Museum. The descriptions are arranged by locality in which the specimens were found. In most instances the year of the find is given and there is always meteorological description, statement of the weight, and if space then one specimen is in the collection, statements of the weight of the various fragments. The word descriptions are supplemented by 38 plates of reproductions of photographs, most of which show

several specimens. Although essentially a catalogue of a museum collection, the book is also a unique record of the results of planned programs aimed at discovering meteorites.

NININGER HARVEY HARLOW

Out of the sky an introduction to meteoritics. Denver The University of Denver Press, 1952 336 p. illus. 24 cm. \$3.00 174

Contents (abridged). Early man and meteorites. Typical falls. The great meteor of March 14, 1811. Sealed from passing meteor. Fireball chains and phenomena. A planned program of search. Composition of meteorites. Ejecta and preservation. Sign of meteorites. The great Cleveland meteorite. Weathering of meteorites. Shapes and shapes. Meteorite centers. An explosion crater. Meteorite craters. Origin of meteorites. Cosmic heating. Trillion. Comet meteorite collections. Proposed National Institute of Meteoritics. Publications by H. H. Nininger. Index.

Note: Detailed reports of observations of meteorites and meteors are contained in this book with specific data on composition, structure, weight, etc., of meteorites. The author is widely known as pioneer investigator of meteor phenomena and as collector of meteorites. He formed the Nininger Collection. In one of the chapters of this book he proposes national institutes devoted to the study of meteorites. The illustrations include 15 plates, most of which are reproductions of photographs of meteorites.

VAN DE KAMP, PETER

Basic astronomy New York Random House, 1952 400 p. illus. 21 cm. \$3.75 175

Contents (abridged). Part one. A survey of the solar system: Sky and telescope. Matter and light. Sun, earth and moon. The planetary system. Part two. The mechanics of stars and planets: The search for observational center of the universe. Methods of the planets as viewed from earth and sun. The mechanics of the stars. The mechanics of double stars. Kepler's laws of planetary motion. Newton's law of gravitation. The masses of earth, sun, moon, planets and stars. Part three. The physical-chemical properties of sun and stars: The composition of starlight. The nearest stars. Atomic structure and collisions. The atmosphere of sun and stars. The features of sun and stars. The source of solar and stellar energy. Part four. The Milky Way system and beyond: The arrangement of the stars—the galaxy system. Interstellar matter and the changing of starlight. Patterns of stellar systems. The galactic system. The rotation of the galactic system. The extragalactic objects. A selected bibliography. Index.

Note: An introductory survey that is so written and organized that it may be used either as text in college courses or as source of information for general readers. This "primer" astronomy is the same that the students of astronomy are stressed. It is a new book that can be read by mature readers without the aid of an instructor. The bibliography includes books only and is intended for students and general readers who wish to pursue the subject by themselves. The author is Professor of Astronomy at Equinore College and Director of the Spence Observatory.

ASTROPHYSICS

GAMOW GEORGE

The creation of the universe. New York The Viking Press 1952 147 p. illus. 22 cm. \$3.75 176

Contents. Introduction. Evolution versus precreation. The great expansion. The making of atoms. The hierarchy of condensation. The prime fire of the stars. Conclusion. Appendix. Index.

Note: The history and evolution of the universe is discussed in this book which reminds the author's trilogy that began with *The birth and death of the sun*, which was followed by *Biography of the earth*. A lively style and easily understood analogies make the account available to all educated readers in spite of rather liberal use of technical terms. The book is an extreme popularization of very advanced data and theory but it is scientifically accurate and will appeal not only to lay readers but also to scientists reading outside their own field.

HALL, JOHN SCOVILLE, AND A. H. MIER

Polarization of light in the galaxy as determined from observations of 551 early-type

stars. Washington United States Printing Office, 1950 62 p. illus. 29 cm. (United States. Naval Observatory Publications. Second series, vol. xvii, part 1) 177

Contents. Introduction. Method of observation. Ritchey-Chretien specially reflector. Apparatus. The observations. Earth's atmosphere. Color effects. Systematic differences. Listed agreement. List of observations. Summary of data. Comparison with observations of W. A. Hulse. Discussion of data. Space distribution. Apparent magnitude. Galactic latitude. Color excess. Interstellar dust. Distance. Asymptotic regression. Visual observation. Stars of special interest. Anomalous regions.

Note: Data collected in 1314 measurements of 551 stars are presented in this publication in two principal tables, the first of which is a record of the individual observations and the second summary of the data. The first mentioned table identifies the star by number, gives the date of the observation, the position angle and the percent of polarization. The following table includes further information on space distribution, magnitude, spectral type, color excess, etc. The tabulated data are discussed and compared with the results from other observers in the final 17 pages of the pamphlet. The work is of interest to professional workers in astronomy and astrophysics.

HYNKE, JOSEPH ALLEN, editor

Astrophysics. A topical symposium commemorating the fiftieth anniversary of the Yerkes Observatory and a half century of progress in astrophysics. New York McGraw-Hill Book Company Inc., 1951. 703 p. illus. 24 cm. \$12.00. 178

Contents. Introduction. On the development of astrophysics during the last half century by R. Stromberg. Part one. Spectroscopic astrophysics. Classification of stellar spectra, by P. C. Keenan and W. W. Morgan. Interpretation of spectral stellar spectra, by L. H. Aller. The analysis of peculiar stellar spectra, by G. Herber. Molecular spectra in cosmic spectra, by P. Prings. The growth of our knowledge of the physics of the stars, by R. Stromberg. Part two. Physics of the solar system: The sun and stellar radiation, by R. Fiedt. Comets, by H. T. Johnson. On the origin of the solar system, by G. P. Kuiper. Part three. Physics of binary and variable stars. Visual binary stars and stellar populations, by G. Van Bovenhoven. Spectroscopic binaries and stars with composite spectra, by J. A. Hynek. Eclipsing binaries, by M. L. Florin. The intrinsic variable stars, by C. Payne-Gaposchkin. Part four. Physics of cosmic matter: Interstellar matter, by J. L. Greenstein. The structure, the composition, and the source of energy of the stars, by S. Chandrasekhar. Mass index. Star index. Subject index.

Note: Each of the papers in this outstanding collection is the work of one or more scientists of international reputation, most of whom have been associated with the Yerkes Observatory. Generally speaking, in each paper the development of specific area of astrophysics during the last half-century is outlined, its present state is described, and there is some discussion of problems that still challenge the scientists. The papers are submitted annually to graduate students and young scientists who are beginning work in astrophysics.

KUIPER, GERARD PETER, editor

The atmospheres of the earth and planets. Revised edition. Chicago The University of Chicago Press 1952 434 p. illus. 24 cm. \$8.50 179

Contents. Introduction, by G. P. Kuiper. On the nature of the general circulation of the lower atmosphere, by C. G. Rossby. Structures in the atmosphere of the earth and planets, by R. C. van de Hilst. The upper atmosphere studied from rockets, by J. L. Greenstein and others. Seasonal variations in the density of the upper atmosphere, by V. L. Wiggins and others. The spectra of the night sky and the aurora, by P. Schenck and A. R. Menzel. The terrestrial atmosphere above 200 km., by L. Spitzer, Jr. Geological evidence on the evolution of the earth's atmosphere, by R. T. Chamberlain. Solar wind and the formation of the earth's atmosphere, by H. Strom. Selected topics in the infrared spectroscopy of the solar system, by A. Adel. On the presence of atmospheric mass from infrared satellite bands, by M. V. Milosavljevic. Spectroscopic observations of the planets at Mount Wilson, by T. Duxbury. Planetary atmospheres and their spectra, by G. P. Kuiper. Laboratory absorption spectra obtained with lens paths, by G. Herzberg. Appendix. Index.

Note: A collection of papers which were originally prepared for the Symposium on Planetary Atmospheres held at the University of Chicago in September, 1947 in connection with the fifth anniversary of the Yerkes Observatory. Among the authors are prominent meteorologists, astrophysicists, and specialists in upper atmosphere research. Some of the experimental methods and results reported were not published previously to the appearance of this volume. In all of the papers the presentation is technical, hence the volume is of primary usefulness only to persons with scientific education pertinent to the field. The first edition appeared in 1949. For the present edition most of the authors revised their chapters and some made very substantial revisions.

THE STRUCTURE OF THE GALAXY A symposium held in connection with the dedication of the Heber Doust Curtis memorial telescope, June 22-24 1950 Ann Arbor, Michigan University of Michigan Press 1951 86 p illus. 32 cm. (University of Michigan. Observatory publications. Vol. x) Paper \$2.50

180

Contents: Heber Curtis and the Michigan telescope, by J. Stebbins. Galactic—present day problems, by W. Baade. Comparison of rotational motions observed in the spirals M31 and M33 and in the galaxy by M. U. Mayall. Galactic distribution of planetary nebulae and H II stars, by R. Minkowski. Application of the principle of natural resonance to the classification of stellar spectra, by W. W. Morgan. Distribution of early type stars of high luminosity near the galactic equator, by J. J. Klemm and W. W. Morgan. Diffusion of tidal star clouds at intermediate latitudes, by F. D. Miller. Dynamical interpretation of velocity distribution and structural details in the galaxy, by R. Lindblad. Some features of galactic structure revealed by stellar motions, by A. M. Yezhovskiy. Recent investigations concerning the stellar luminosity function, by E. W. McCauley. H-alpha emission objects in the Magellanic clouds, by K. G. Harlowe and F. D. Miller. Comparison of the Magellanic clouds with the galactic system, by H. Shapley.

Note: A collection of original papers presented—with one exception—at the symposium named in the title. The exception is the first paper which was delivered as an address on the occasion of the dedication of the Schmidt Telescope of the University of Michigan on June 24, 1950. "The collective contributions are intended to summarize the then existing state of knowledge concerning the broad outlines of the arrangement of the galaxy and to describe the methods now being employed for its advancement. The volume is of interest to graduate scientists working in the field of astronomy."

STRUVE, OTTO

Stellar evolution an exploration from the observatory Princeton University Press 1950 266 p illus. 24 cm. \$4.00

181

Contents: Probing the stars' chemical composition. Some problems of stellar evolution. The origin and development of close double stars. Index.

Note: A substantial contribution to the literature of astrophysics. Essentially it is an exploratory survey for theory or hypothesis that will explain the evolution of the stars in terms of the accumulated observational data. Neither hypotheses are examined critically. The author gives special attention to the ideas of van Weizsäcker, Dehnel, and Auerbach among others, and also puts forth some tentative conclusions of his own. The style of the book is neither technical nor, as the author points out, the work is not intended for astronomers but rather for such scientists as physicists and chemists who desire some insight into current astrophysical problems.

SUN AND SOLAR SYSTEM

BALDWIN RALPH BELKNAP

The face of the moon. Chicago. The University of Chicago Press, 1949 239 p illus. 25 cm. \$5.00

182

Contents: Scientists look at the moon. Surface features. Suggested crater-forming processes. Tectonic and volcanic craters. Fossil far natural meteorite craters. Relationships. Correlations. Evaluation. The lunar atmosphere. Ancient history. The crater Maria. Other planets. Appendixes: Derivation of the relationship between the distances of the moon and geologic time. The lunar tidal bulge as a function of the moon's distance. The penetrating power of projectiles. The

diameters of the meteorites which produced the craters. Bibliography. Index.

Note: The greater part of this significant book is devoted to evidence in support of the theory which holds that the craters visible on the surface of the moon were made by explosions resulting from the impact of meteors. Other hypotheses, particularly those which attempt to explain the craters on the basis of volcanic action, are examined and their faults are pointed out. Much interesting information is included on related topics, such as the question of whether the moon has an atmosphere and the history and characteristics of craters on the earth which appear to have meteoritic origin. The work is addressed to both scientists and laymen. The author made no obvious effort to avoid technical terminology but both his subject and style are suited to serious general readers who are attracted to modern science.

MENZEL, DONALD HOWARD

Our sun. Cambridge Harvard University Press, 1949 326 p. illus. 22 cm. (The Harvard books on astronomy, edited by Harlow Shapley and Bart J. Bok) \$4.50

183

Contents: Meet the sun. A panoramic view. Light, atoms, and test tubes. The message of sunlight. Solar chemistry. Sunspots—solar cyclones. Fine details of the solar surface. Prominences—proyers and volcanoes. The curious mystery. Atomic energy and the solar interior. Solar eclipses—old and new. The sun—and you! Index.

Note: What is known about the sun, how the knowledge was gained, and some of the applications and implications of this knowledge are the subjects of this book. It is written for the most advanced high school or lay reader who is not turned aside by more technical terminology. Known solar phenomena are described and explained, usually in terms of atomic structure and behavior. A fair amount of tabulated reference material, such as table of solar eclipses, is included, and the principles of the chief astronomical instruments used for studying the sun are briefly explained. Fringe subjects, such as probable future use of solar energy and the relation of sun spot cycles to human affairs, are discussed conservatively.

MITCHELL, SAMUEL ALFRED

Eclipses of the sun. Fifth edition. New York Columbia University Press, 1951 445 p illus. 23 cm. \$6.50

184

Contents: The beginnings of astronomy. Biblical and classical eclipses. The prediction of eclipses. The verification of eclipses. The spectroscopy. Eclipses before the year 1900. Personal experiences in 1900, 1901, and 1905. Eclipses from 1915 to 1919. Eclipses since 1930. The structure of the atom. Series relationships in spectra. Photographing the flash spectrum. Ionization and the flash spectrum. Solar problems and their interpretation through eclipses. The sun's revealing layer. Coronal information obtained from eclipses. Our present knowledge of the corona. Solar problems solved and unsolved. Index.

Note: (444) A standard non-technical presentation of theory, history, and observational techniques. It is addressed to the non-specialists, especially to general readers and to scientists outside the field of astronomy who want reliable survey and book of reference. The fourth edition appeared in 1945. The work has been extensively revised in this edition. Although many pages shorter it contains much new information. The title is misleading. The book is not limited to accounts of recent eclipses but includes also recent advances in the understanding of solar physics. Also, less space is given to observation of eclipses in ancient times and to details of the author's travels in connection with his own observations.

MOHLER, ORREN C. AND OTHERS

Photometric atlas of the near infra-red solar spectrum $\lambda 8465$ to $\lambda 25,242$ By Orren C. Mohler A. Keith Pierce, Robert R. McMath and Leo Goldberg. McMath-Hulbert Observatory of the University of Michigan Ann Arbor University of Michigan Press 1950. 7 p., 117 leaves illus. 48 x 32 cm. Paper \$4.00

185

Note: Except for an introduction in which instrumentation and recording techniques are described, this book consists entirely of graphs of tracings made at the McMath-Hulbert Observatory with an instrument set-up composed of a Row telescope and recording spectrometer, the sensitive element in the latter being lead-phosphate

photoconductive cell. The graphs are photo effect reproductions of the original record. The work is complementary to M. Mianini and others, *A photoelectric effect of the solar spectrum*, Amsterdam, 1940.

UNITED STATES. NAUTICAL ALMANAC OFFICE

Coordinates of the five outer planets 1653-2060 By W J Eckert, Dirk Brouwer G. M. Clemence. Washington United States Government Printing Office 1951 327 p 29 cm. (U S. Nautical Almanac Office, Astronomical papers prepared for the use of the American Ephemeris and Nautical Almanac. Vol. xii) o. p. 186

Contents: The differential equations. Method of integration. The machine calculations. Data recorded. Accuracy of the integration. Comparison with observation and constants of integration. Arrangement of the printed coefficients. Tabular comparison. Table of Everett coefficients. Coordinates of Jupiter. Coordinates of Saturn. Coordinates of Uranus. Coordinates of Neptune. Coordinates of Pluto. Basic data.

Note: "This volume contains the heliocentric coordinates of Jupiter, Saturn, Uranus, Neptune, and Pluto, at forty-day intervals from 1653-2060. They were obtained by numerical integrations on the IBM Selective Sequence Electronic Calculator. These coordinates will be useful in discussing the motions of the planets themselves and in computing their effects on comets and other objects. —Preface.

URRY HAROLD CLAYTON

The planets their origin and development. New Haven Yale University Press, 1952 245 p. 25 cm. \$5.00 187

Contents: The origin of the solar system. The sun. The terrestrial planets. Chemical processes during the formation of the planets. The heat balance of the earth. The abundance of the elements and the chemical composition of the solar system. Summary and conclusions. Appendixes. Index.

Note: "A new hypothesis pertaining to the formation of the earth and other solar planets is put forth in this book. The main points are in the author's words: 'The earth and other terrestrial planets were formed at much lower temperatures than were generally thought to be the case up to the present time. A more uniform distribution of heat throughout the effluve phases of the earth led to the fact that acids were and the iron core of the earth has been formed at least partly during geologic time. A considerable part of the book is written in the terminology and concepts of physical chemistry and the author has sought, theory that would accommodate such facts as the absence of these cores in some planets, and the widely varying chemical composition of the planets and moons. The book is addressed to astrophysicists, physical chemists, and others with considerable education in the physical sciences.

STARS

DUGAN, RAYMOND SMITH, AND NEWTON LACY PIERCE

Photometric researches, twenty four eclipsing variables. Observed by Raymond Smith Dugan and Newton Lacy Pierce. Arranged by Frank Bradshaw Wood. Princeton N J. Published by the Observatory 1951 117 p. 32 cm. (Contributions from the Princeton University Observatory No 25) \$3.00 188

Contents: Introduction. RT Andromedae. WZ Andromedae. IC Andromedae. AA Andromedae. SU Aquarii. XX Aurigae. UV Bootis. SV Comaeberculae. TT Canis. U Comae Berenice. RW Comae Berenice. GO Cygni. 44 Eridani. RW Eridani. RW Geminorum. UV Leonis. RW Leonis. RW Orionis. TT Puppis. TT Puppis. Y Puppis. AN Tauri. RW Ursae Majoris. AO Virgo.

Note: "In this publication observed variations in light intensities for 24 systems of eclipsing variable stars are tabulated. The observations were made with the 2 1/4 inch refractor and polarizing photometer of the Princeton University Observatory

KOPAL, ZDENEK

The computation of elements of eclipsing binary systems. Cambridge Massachusetts The Observatory 1950 181 p 27 cm. (Harvard University Harvard Observatory monograph number eight) Cloth \$5.00 paper \$4.00 189

Contents: Preface. Introduction. Observational data and their treatment. Computation of the intermediary elements. Differential corrections. Effects of orbital eccentricity. Computation of the elements of eclipsing systems. Appendix: Solution of least squares systems and computation of the errors. Survey of the methods. Epilogue.

Note: Essentially this work is a manual of methods of computation on desk-type computing machines—methods which have been developed since the semi-graphical methods published by Russell and Shapley in 1912. It points the way to more precise calculations based on the more accurate observations of eclipsing binaries which the methods of photo-electric photometry have made possible. Some of the methods are new and tentative, while others have reached high state of development. The book is intended for graduate work in astronomy.

MERRILL, JOHN ELLSWORTH

Tables for solution of light curves of eclipsing binaries coefficient of limb-darkening $x=0.0$ $x=0.2$ $x=0.4$ $x=0.6$ $x=0.8$ Princeton New Jersey Princeton University Observatory 1950. 1 v in 5 parts. 30 cm. (Princeton University Observatory Contributions. No 23) Paper \$15.00 190

Note: These tables represent an extension and refinement of an earlier work (tabulated and published in 1912 by Henry M. Merrill in *Astronomical Journal*, v. 35 June, 1912). They are designed to assist astronomers and astrophysicists in determining the orbits of those stars which eclipse each other at every conjunction. Four degrees of partial limb-darkening are tabulated and the data are grouped according to decreasing coefficient.

OLIVIER, CHARLES POLLARD AND OTHERS

Magnitudes and coordinates of comparison stars in 35 regions of variable stars and magnitudes of other variables. Philadelphia University of Pennsylvania Press, 1952 98 p 28 cm. (Publications of the University of Pennsylvania. Astronomical series. Vol. VII, part II) Paper \$3.00 191

Note: "A complementary work to the authors' *Magnitudes and coordinates of comparison stars in 32 regions of variable stars and magnitudes of 284 variables*, published in 1940 as Vol. part II of the same series. It contains the data derived from considerable range of additional observations. Data given include the photometric magnitudes, visual magnitudes, and adopted magnitudes for each of the comparison stars. In addition, the book is hand contains sections entitled "Mixed-type variables" in which observations made by Olivier over a long period of years of the magnitude of selected variable stars are tabulated.

PAYNE GAPOSCHKIN CECILIA

Stars in the making. Cambridge Harvard University Press 1952 160 p illus. 25 cm. (The Harvard books on astronomy, edited by Harlow Shapley and Bart J Bok) \$4.25 192

Contents: Introduction. Cosmic evolution. Part one. The planets: Stars. Dust and atoms. Part two. The stars. Pairs of stars. Clusters of stars. Systems of stars. Part three. The dwarf stars. The ages of things. The evolution of galaxies. The evolution of the stars. Suggestions for further reading. Index.

Note: "This book by an internationally famous contemporary astronomer is addressed to general readers and others who have

non-specialist interest in the stars. It presents vivid pictures of what astronomers know at the present time about the behavior of stars and their evolution. The narrative is supplemented by 67 plates of reproductions of photographs of stars and galaxies. The bibliography is short edited list of books suitable for the further enlightenment of non-specialist readers.

RUSSELL, HENRY NORRIS, AND JOHN ELLSWORTH MERRILL.

The determination of the elements of eclipsing binaries. Princeton, N J Published by the Observatory 1952 96 p illus. 31 cm.

(Contributions from the Princeton University Observatory No 26) \$5 00 193

Contents: Introduction. The spherical model. Chapter III, Part I. Monographic solutions; Part II, Determination of the solutions. The rectifiable model. Intermediate solutions. Miscellaneous notes. Precepts for the computer.

Note: A complementary work to Merrill, *Tables for solutions of light curves of eclipsing binaries*, described above, and to volume of monographs published as number 34 of the same series. It is presentation of the theory and the computational techniques useful in the analysis of eclipsing binary phenomena and in the compilation of such data as the tables and monographs just mentioned. The third chapter on monographic solutions is of special interest and this is the first publication of the method.

PHYSICS

GENERAL

BRIDGMAN, PERCY WILLIAMS

The nature of some of our physical concepts. New York Philosophical Library 1952 64 p. 24 cm. \$2.75 194

Notes: Three lectures delivered at the University of London in 1950 have been collected in this volume, after having been published in three 1951 numbers of the *British Journal for the Philosophy of Science*. The lectures provide to the contemporary school of physical thought that is usually designated as operational analysis or operational philosophy. The author is one of the principal contributors to this school, and in the book at hand he has both modified and extended some of his previous writings on the subject.

BRIDGMAN, PERCY WILLIAMS

Reflections of a physicist. New York Phil osophical Library 1950 392 p. 23 cm. \$5.00 195

Contents (abridged): Group I. General points of view: Operational analysis. Science—public or private? Freedom and the individual. Group II. Applications to scientific statements: The new views of science. Permanent elements in the list of present-day physics. Statistical mechanics and the second law of thermodynamics. The three laws. Group III. Physical models: The struggle for theoretical identity. Reality and the intelligent physicist. Science and freedom—reflections of a physicist. Group IV. Specific phenomena: "Manifesto by a physicist. Scientific freedom and national planning. Group V. Prospects: The prospect for intelligence. New vistas for intelligence. Index.

Notes: A collection of 22 methodological essays by well-known scientists. All but three of these are reprinted from periodicals and other publications. Two of the papers deal explicitly with the author's "operational analysis" concept which he applies first to the philosophy of science in his *The logic of modern physics* (1944). The book will appeal most to persons interested in the philosophy and social implications of science. However, the essays on scientific freedom and the possibilities of human intelligence are of interest to general readers.

DUBROVNIK SAUL

Scientific foundations of vacuum technique. New York John Wiley & Sons Inc. 1949 882 p. Illus. 24 cm. \$15.00 196

Contents: Kinetic theory of gases. Flow of gases through tubes and orifices. Mechanical pumps. Steam-jet ejectors and mercury-vapor pumps. Vapor pumps using capillary liquids. Measurements for low gas pressures. Sorption of gases and vapors by solids. Sorption of gases by "active" charcoal, silicates (including glasses) and cellulose. Gases and solids. Chemical and electrical clean-up of gases at low pressures. Vapor pressure and rates of evaporation. Dissociation processes of acids, hydrides, and nitrides and rates of reactions. Significance of reference observations. Name index. Subject index.

Note: Although pumps and other apparatus used in the production and measurement of high vacuums are thoroughly described as to principles, characteristics and limitations, this book is not primarily a description of apparatus and its construction. Rather it is presentation of fundamental facts from the fields of physics, chemistry and metallurgy which has application to high vacuum techniques. It is written on a professional level and is intended for scientists and engineers. There are numerous footnote references to the pertinent literature. It contains much more material than was contained in the author's *Production and measurement of high vacuums* (McGraw-Hill N. Y. 1923).

EINSTEIN, ALBERT

The meaning of relativity Princeton N. J. Princeton University Press, 1950. 150 p. 21 cm. \$2.50 197

Contents: Space and time in pre-relativity physics. The theory of special relativity. The general theory of relativity. Appendix to the second edition. Appendix II. Generalized theory of gravitation.

Note: One of the landmarks of modern knowledge. In this edition apparently no changes were made in the main body of the book nor in the first appendix. Only appendix II is new but it contains Mr. Einstein's general theory of gravitation, the purpose of which is to harmonize the observed phenomena of gravity, electromagnetism, energy, etc., in such a way that all physical phenomena can be explained in a single theory. The book is addressed to professional physicists whose mathematical knowledge and other training enable them to understand the mathematical expressions of relativity.

MARGENAU, HENRY

The nature of physical reality a philosophy of modern physics. New York McGraw-Hill Book Company Inc., 1950 479 p. Illus. 24 cm. \$7.00 198

Contents (abridged): Ways of arriving at reality. What is immediately given? Departure from the mechanistic concepts. Mathematical requirements of concepts. Empirical confirmation. Space and time. Systems, observables, and states. Physics of discrete systems. Physics of continua. Thermodynamics. The role of definitions in science. Probability. Statistical mechanics. The foundations of physical science. Basic ideas of quantum mechanics. Uncertainty and measurement. Causality. The scientific principle. The contents of reality. Name index. Subject index.

Note: A philosophical contribution to the philosophy of science. The author states that he believes the existence of scientific realism, modernized operationalism and logical empiricism which provide most of the discussion and much of the thinking on subjects of science, to be extended and to be satisfactory with the successful phases of contemporary physics. He defines reality in terms of "realistics," which derive their validity from systems of experience rather than from the "positive readings" of operationalism. The book is addressed more to physicists than to philosophers but it does contain thought of interest to the latter group too. It is arranged for use as a textbook in college courses, but it can be read independently by any reader who has basic understanding of philosophical and physical terminology.

RAINICH, GEORGE YURI

Mathematics of relativity New York John Wiley & Sons, Inc., 1950 173 p. Illus. 23 cm. \$4.00 199

Contents (abridged): I. Old physics. Motion of particles. The Lorentz square law. Two pictures of motion. Maxwell's equations. General equations of motion. The complete tensor. II. Wave geometry. Analytic geometry of four dimensions. Tensor analysis. Complexification resulting from imaginary coordinates. Are the equations of physics invariant? Curves in the new geometry III. Special relativity. Equations of motion. Addition of velocities. Light corpuscles or photons. The complete tensor. IV. Curved space. Generalization. The Riemann tensor. Tensors in general coordinates. Einsteinian tensor in general coordinates. Equations of physics in general coordinates. V. General relativity: The law of gravitation. Intrinsic of the field equations. Riemannian motion of planets. Relativity motion of a planet. Definition of light. Conclusion. Index.

Note: An introductory exposition of the mathematical concepts and techniques necessary to [1] comprehension of relativity. The book is designed for upperclass and graduate college students working in mathematics or physics. The author is Professor of Mathematics in the University of Michigan, and the book is development of courses which he has taught there for more than twenty years.

TEXTBOOKS

BERGMANN, PETER GABRIEL

Basic theories of physics mechanics and electrodynamics New York Prentice-Hall, Inc. 1949 280 p illus. 22 cm. (Prentice-Hall physics series Donald H. Menzel, editor) \$7.35 200

Contents: Part I, Classical mechanics. Mechanics of mass points. Analytical mechanics. Matter is built. Summary of classical mechanics. Part II, Electrodynamics. Electrostatics and magnetostatics. Electromagnetic interaction. The electromagnetic field. Waves. Relativity. Optics. Conclusion. Further reading. Index.

Note: A brief textbook presenting the theoretical foundations of classical physics, that is, Newton's mechanics and Maxwell's electrodynamics, and tracing the development of classical physics through to the special theory of relativity. Attention is concentrated on physical ideas, and the mathematical techniques are considered as tools and discussed as needed. The work is intended for graduate students in theoretical physics. A complete volume is described above.

BROWN THOMAS BENJAMIN

Foundations of modern physics. Second edition New York John Wiley & Sons Inc. 1949 391 p illus 24 cm. \$5.50 201

Contents: The elementary electric charge and the electron. Dimensions of atoms. The wave character of light. Polarized light. Electrical oscillations and electromagnetic waves. The electromagnetic spectrum—Infrared light, ultraviolet light, and X-rays. Light particles and electron waves. The hydrogen spectrum and the hydrogen atom. Optical spectra and atomic structure. X-ray spectra and more about atoms. Molecular systems. Molecular energy. Crystals. Many-body systems. Radioactivity. Nuclear discovery. Nuclear research. Nuclear energy. Cosmic rays. Epilogue. Appendix. Index.

A textbook for colleges in which the discussion and theories of the past century which form the basis for present-day developments in physics are discussed. Emphasis is placed on experimental methods and only elementary mathematics is employed. The edition has been revised in the light of recent developments in the field, and the chapter on nuclear theory has been expanded to form three new chapters covering nuclear energy and its applications. Review problems and suggested readings are again included at the end of each chapter.

CABLE, EMMETT JAMES, AND OTHERS

The physical sciences. By Emmett James Cable, Robert Ward Getchell, William Henry Kadetsch, with chapters on astronomy by Harry E. Crull. Third edition. New York Prentice-Hall, Inc., 1951 496 p illus. (part col'd) 25 cm. \$7.65 202

Contents (abridged): The doors of science. Weights and measures. Energy defined. Energy wasted. Force and motion. Fields and field concepts. Building systems of matter. States of existence. The behavior of molecules. Heat as a form of energy. Our atmosphere. Winds and weather. Optical instruments. Spectra. Electrostatics and magnetism. Electric currents. Electrical communication. X-rays. Radioactivity. Some fundamental chemical processes. Ionization and equilibrium. Nitrogen and its compounds. The halogens. The classification of the elements. Solids. Some common metals. Organic and food chemistry. The earth and its rocks. Ocean water and its work. Desalination, an ever-continuing process. Earthquakes and volcanoes. The earth as an astronomical body. The moon and eclipses. Other members of the solar system. The sun and its radiation. The stars and nebulae. The Milky Way and extragalactic systems. Science and the world of tomorrow. Conclusion. References. Index.

Note: (1) A survey of the physical sciences to introduce to non-technical as the subject matter permits. The book indicates the essential unity of the physical sciences and the pronounced effect they have had upon modern life. In the third edition the book has been given a larger and more attractive format, and the number of illustrations has been increased from 179 to 343. The section on astronomy has been completely rewritten, and the list of questions and problems has undergone revision. The work was particularly written for use in freshman survey courses in science in teachers' colleges. It may be used in refutation by non-science readers interested in an introductory view of the physical sciences.

HOLTON, GERALD

Introduction to concepts and theories in physical science. Cambridge, Mass. Addison-Wesley Press, Inc., 1952 650 p. illus. 22 cm. \$6.50 203

Contents (abridged): Part A, The study of motion. Galileo and the kinematics of free fall. Projectile motion. Part B, The study of forces: Newton's laws of motion. Rationalized motion. Part C, The laws of planetary motion and universal gravitation: The astronomy of ancient Greece. Copernicus' heliocentric theory. The nature of scientific theory. Kepler's laws. Galileo's contribution to astronomy. Newton's law of universal gravitation. Part D, On structure and method in physical science: Concepts. The growth of science. Part E, The laws of conservation. The law of conservation of matter. The law of conservation of momentum. The law of conservation of energy. Part F, Origins of the atomic theory in physics and chemistry: The physics of gases and of heat. The atomic theory of chemistry. Part G, Quantum theory and the nuclear atom. Electrodynamics. Properties of light. The quantum theory of light. Radioactivity and the nuclear atom. Bohr's model of the atom. Appendix: Fundamental constants. Table of conversion factors. Alphabetical list of the elements. Periodic table of the elements. Summary of some trigonometric relations. Natural trigonometric functions. Common logarithms. Index.

Note: A new textbook which is designed for use in introductory college courses. Its organization and content reflect the critical examination of college instruction in science which has been going on in recent years under the leadership of James Bryant Conant. As the chapter titles show, selected basic concepts from both classical and quantum physics are emphasized and there is also considerable discussion of the history of science and of scientific methods. The author is Assistant Professor of Physics and of General Education in the Physical Sciences in Harvard University.

HULL GORDON FERRIE

Elementary modern physics. A revision of *An elementary survey of modern physics* New York The Macmillan Company 1949 503 p illus. 22 cm. \$5.75 204

Contents: Mechanics. The electron, discovery. Radiation. The photoelectric effect. Optics. Atomic spectra and the Bohr theory. X-rays. Molecular motion. Electric phenomena in gases and solids. The Zeeman and Raman effects. Radioactivity. Rutherford's discovery of transmutation of atoms. Cosmic rays, phenomena as particles. Transmutation of the elements. Waves and particles. Limitations imposed by nature. Newton discovered by Hahn and Rosenblum. Appendix. Index.

Note: (1949) A well-written introduction to modern physics suitable for students and other readers who have completed courses in basic physics. Each topic is kept in perspective, how the modern line of research is calculated, and previous books are discussed briefly and judiciously. The present edition includes much material that was not in the original edition published in 1934.

KOLIN, ALEXANDER

Physics its laws ideas and methods. New York McGraw-Hill Book Company Inc., 1930 890 p illus. 24 cm. \$7.00 205

Contents: Part A, Phenomenological approach in physics: Mechanics of points and of rigid bodies. Mechanics of fluids. Vector fields. Heat as a form of energy. Part B, Theoretical approach in physics using mechanical model theories: As mechanical explanation of heat phenomena. As mechanical explanation of electrical phenomena. As mechanical explanation of electromagnetic phenomena. Part C, Transition from mechanical model theory to an electromagnetic field theory: Particle motion of matter and waves propagated in material media. Wave propagation in the hypothetical ether. Particle motion of electric charges and propagation of electromagnetic waves. Part D, The failure of the classical mechanical and electromagnetic theories and the revivals of the fundamental assumptions of physics. Feasibility of classical electrodynamics to explain emission and absorption of light. Replacement of deterministic description by statistical laws. Modification of our ideas on the immutability of elements and on the permanence of mass and energy. Revision of our concepts of space and time. Tables. References for further study. Index.

Note: An introductory textbook developed at the University of Chicago. The basic phenomena and laws usually presented in textbooks for first college courses are covered, but the applications introduced are largely biological. This emphasis and the attention given to the scientific method and the book to the needs of

students have much interest in biology or even are ill sciences other than physics. However, the physics content of the book has not been shaped nor are physical ideas treated superficially.

LINDSAY, ROBERT BRUCE

Concepts and methods of theoretical physics. New York: D. Van Nostrand Company, Inc. 1951. 515 p. 23 cm. \$7.00 206

Contents (abridged): The nature of theoretical physics. Part I. Particle physics: Kinematics—the geometry of motion. Concepts of the theory of mechanics—the principles of dynamics. Motion of particle in a straight line—oscillations. Motion of particle in a plane. Motion of collection of particles. Dynamics of rigid body. Molecular principles—Laplace's equations. The transformation theory of mechanics—atomic structure. Statistical mechanics and thermodynamics. Quantum theory. Part II. Field physics: Scalar and vector fields. Deformable material media and tensor fields. Wave motion in solid and field media. The electromagnetic field. Electromagnetic induction. Electron theory and relativity. Problems. Index.

Note: This book is text for upper-level undergraduate college students who are majoring in physics. The author has assumed that his readers will have completed courses in advanced calculus and elementary partial differential equations. For readers with the necessary preparation the book provides an introductory and fairly simple treatment of some of the basic ideas and the chief mathematical techniques of present-day physics.

MARGENAU, HENRY, AND OTHERS

Physics: principles and applications, by Henry Margenau, William W. Watson and Carol G. Montgomery. New York: McGraw-Hill Book Company, Inc. 1949. 760 p. illus. 23 cm. \$6.50. 207

Contents (abridged): The methods of physics. Introduction to mechanics: Motion. Kinematics. Forces and acceleration. Dynamics. Dynamics of rigid body. Oscillations. Hydrodynamics. Electrodynamics. Properties of gases and vapors. The laws of thermodynamics. Magnetism. Dielectrics and capacitance. Electric currents. Magnetic fields and point. Electrodynamics. Wave motion. The nature of light. Optical instruments. Spectra and color. Diffraction. Nuclear physics. Appendixes. Index.

Note: A new textbook of considerable importance. In their preface, the authors—all members of the faculty of Yale University—state that their purpose is to present an account of physics which is "rigorous, vital, and modern. Most of the space is devoted to classical physics, as would be expected in an introductory work; but the main concepts of modern physics, including quantum mechanics, are introduced and explained at least briefly. Appendixes are described but are not emphasized. Calculus is employed in the exposition and the problems.

MENDENHALL, CHARLES ELWOOD, AND OTHERS

College physics. Third edition. By C. E. Mendenhall, A. S. Eve, D. A. Keys, and R. M. Sutton. Boston: D. C. Heath and Company. 1950. 657 p. illus. 24 cm. \$6.00 208

Contents (abridged): Statics. Forces and motion. Energy and power. Friction and machines. Rotation. Electricity. Oscillations. Hydrostatics. Mechanics of fluids. Properties of fluids. Viscosity and oscillations. Wave motion and sound. Appendixes of sound. The measurement of physical constants. Chapter theory of gases. Calorimetry. Transfer of heat. Change of state. Magnetism. Electrodynamics. Conductors and capacitance. Current electricity. Magnetic fields and motion. Electromagnetic induction. Conduction of electricity through gases. Radio. The nature of light and photometry. Lenses. Optical instruments. Photoelectricity. Radioactivity. Atomic structure. Nuclear physics and atomic energy. Appendix. Answers to problems. Index to tables in text. Index to text.

Note: (1946.) An introductory college text for students who have little interest in this subject is cultural. The mathematical requirements are simple. Readers' interests are stimulated by illustrations on almost every page and by numerous applications of physical principles to familiar machines and devices. A substantial number of changes in the definitions, illustrations, and problems have been made in this edition.

MICHELIS, WALTER CHRISTIAN, AND A. L. PATTERSON

Elements of modern physics. Illustrations by Richard Barbera and George Berk. New York: D. Van Nostrand Company, Inc., 1951. 659 p. illus. 24 cm. \$6.50 209

Contents (abridged): Length and time. Linear motion. Mass, momentum, and force. Motion in space. Some properties of matter. Mechanical energy. Wave motion. Thermal energy. Radiation. Optical instruments. Rotation. Fields of force. Electric currents and potentials. Molecules and atoms. The behavior and theory of gases. Electromagnetic induction. Atomic and nuclear structure. The behavior and theory of liquids and solids. Oscillations. Electromagnetic waves. Wave and particles. Atomic theory. Appendixes. Index.

Note: A new textbook for college courses in which the authors have made special effort to treat introductory physics from the viewpoint of present-day physics. The conventional division of mechanics and electricity has been abandoned. Physics is presented as a unified body of thought in which there is no fundamental cleavage between classical physics and "modern" physics or between introductory physics or advanced physics. As an instance of the method may be cited the discussion of the speed of processes and the experimental methods of measuring this speed in chapter three. Throughout the book the authors use analogies which are very helpful in presenting physical concepts and laws as logical ideas. The book was developed at Bryn Mawr College, where the first-named author is Professor of Physics.

SEARS, FRANCIS WESTON, AND MARK W. ZEMANSKY

College physics. Second edition. Cambridge, Mass.: Addison-Wesley Press, Inc. 1952. 912 p. illus. (part color) 24 cm. (Addison-Wesley physics series. Francis Weston Sears, consulting editor) \$8.50. 210

Contents (abridged): Composition and resolution of vectors. Rotation. Rotational motion. Newton's second law. Motion in two dimensions. Work and energy. Laplace and momentum. Chapter motion. Rotation. Kinematics. Harmonic motion. Hydrostatics. Hydrodynamics and viscosity. Transpiration. Transfer of heat. The first law of thermodynamics. Thermal properties of matter. The second law of thermodynamics. Wave motion. Vibrating bodies. Acoustical phenomena. The electric field. Potential. Properties of dielectrics. Current and resistance. Principles of electrochemistry. The magnetic field. Induced electromotive force. Magnetic properties of matter. Capacitance and inductance. Alternating currents and electromagnetic waves. Electronics. The nature and propagation of light. Lenses and lens aberrations. Optical instruments. Microscopy. Color. Interference and diffraction. Polarization. Spectra and atomic physics. Radioactivity and nuclear physics. Tables. Index. Answers to problems.

Note: (1947.) A textbook for use in one-year courses. It is based principally on developments with little attention to the practical applications or the historical background of the subject. Abridged from the author's *Principles of physics* which was developed for two-year courses in physics at the Massachusetts Institute of Technology (the first edition of this title was published in 1947). The present edition includes newly added material on surface tension, the kinetic theory of gases, convection coefficients, acoustical phenomena, electricity and light, and new set of problems.

SEMAT, HENRY

Fundamentals of physics. Revised edition. New York: Rinehart & Company Incorporated, 1951. 849 p. illus. 24 cm. \$6.00. 211

Contents (abridged): Part I. Mechanics: Forces and equilibrium. Motion of particles. Periodic motion. Work and energy. Fields in rest. Fields in motion. Properties of matter. Rotational motion. Part II. Heat and work. Kinetic theory of matter. Change of phase. Transfer of heat. Heat engines. Application to refrigeration. Part III. Wave motion and sound. Part IV. Electricity and magnetism. Magnetism. Electrodynamics. The electric field. Electrochemical effects. Electromagnetic effects. Electromagnetic induction. Alternating currents. Electrical communication. Part V. Light: Photometry. Reflection and refraction. Optical instruments. Light as a wave motion. Part VI. Atomic physics: Charged particles. Spectra and atomic structure. Nuclear physics. Appendixes. Tables. Glossary. Index.

Note: (183*) The first edition of this college textbook was the result of planned effort to produce a small book in which briefly was covered largely by selection of the topics to be discussed. In the present revision that idea has been abandoned and the book is comparable in scope to other introductory texts intended for courses of standard length. The emphasis is on basic principles and phenomena and applications are mentioned only incidentally. The author is Professor of Physics in the College of the City of New York.

WINANS, JOHN GIBSON

Introductory general physics. New York Ginn and Company 1952 765 p illus. 24 cm. \$5 75 212

Contents (abridged) Words and measurements. The algebra and geometry of physics. Work and power. Efficiency of machines. Forces acting on liquids at rest. Gauss. Molecular forces. Vectors. Vector equations and projectile motion. Newton's laws of motion. Rotational motion. Combinations of rotational and translational motion. Rigid wires and their sources. Heat. The molecular theory of matter. Magnetism. Electricity in matter. Chemical effects of electricity. Magnetic effects of electric currents. Electric waves. Radio. The conduction of electricity through gases. The intensity of light. The velocity of light. Optical instruments. Color and the spectrum. Atomic energy. Appendix. Index.

Note: The first edition of college textbook which has number of notable features. The concept of vector is introduced early and is employed throughout most of the book. The numerous illustrations are well chosen. Outstanding are the numerous graphical demonstrations of physical principles and the reproduction of photographs of physical experiments. Discussions of recently developed devices such as the transistor are included. Although typical applications are described, the book is not a descriptive text in the usual sense of that term. However the mathematics is simple. The author is Associate Professor of Physics in the University of Wisconsin.

WEIGHTS AND MEASURES

NATIONAL CONFERENCE ON WEIGHTS AND MEASURES

Specifications, tolerances, and regulations for commercial weights and measures and weighing and measuring devices. (Issued September 1, 1949) Washington D C. Government Printing Office, 1949 144 p 20 cm. (United States National Bureau of Standards. Handbook 44 superseding Handbook 29) \$1.25 213

Contents. Introduction. General rules. Linear measures. Fabric measuring devices. Tactile rules for circle-measuring devices. Testpieces. Oedometers. Liquid measures. Ombroscopes. Mass-measuring devices. Misk bottles. Lubricating-oil bottles. Liquid-measuring devices. Gross-measuring devices. Vehicle tanks. Dry measures. Berry baskets and boxes. Rules. Application. Definitions. Specifications. Notes. Performance requirements except tolerances. Tolerances. Repetition. Weights. Recurrent index.

Note: The specifications, tolerances, and regulations given in this handbook are recommended by the National Bureau of Standards for official promulgation in and use by the states of the United States of America in carrying out their control of commercial weighing and measuring apparatus. The specifications, tolerances, and regulations comprise all of the current rules as adopted by the National Conference on Weights and Measures through 1949. Five correction sheets showing changes in and additions to the rules published in the handbook are issued from time to time conforming with the text of the handbook and printed only on one side of the page to simplify insertion. This handbook supersedes Handbook 29 published in 1943.

SMITH RALPH WEIR

Testing of measuring equipment. A manual for weights and measures officials. Issued May 15, 1951 Washington D C Government Printing Office, 1951 205 p illus. 24 cm. (United States National Bureau of Standards. Handbook 45) \$1 25 214

Contents: Introduction. Inspection of measuring equipment. Adjustment, rejection, and sealing of measuring equipment. Index.

measures. Fabric-measuring devices. Testpieces. Ombroscopes. Liquid measures. Ombroscopes. Mass-measuring devices. Misk bottles. Lubricating-oil bottles. Liquid-measuring devices. Gross-measuring devices. Vehicle tanks. Dry measures. Berry baskets and boxes. Rules, gauges, and electricity meters.

Note: A manual for state and local weights and measures officials in which various types of commercial measuring equipment, the principles of their operation, and methods for their inspection and test are described. It is devoted primarily to concerns recommended for use by officials when exercising their routine regulatory control over measuring equipment of all kinds. Testing procedures recommended are in general the minimum requirements considered necessary to enable the official to determine whether or not equipment should be approved for commercial use. This handbook is companion volume to Handbook 37 1945: Testing of weighing equipment.

MECHANICS

BIRKHOFF, GARRETT

Hydrodynamics: a study in logic, fact, and similitude. Princeton New Jersey Princeton University Press for University of Cincinnati, 1950 186 p illus. 22 cm. \$3.50 215

Contents: Hydrodynamical paradoxes. Recent progress in free boundary theory. Models and dimensional analysis. Group theory and field mechanics. Virtual work and groups. Bibliography. Index.

Note: An unusual book in which the author examines number of noted paradoxes in fluid mechanics; shows "plausible reasoning" is not applicable in many hydrodynamic situations; discusses theory and practice in the use of models and the application of symmetry concepts; and then explores the applications of group-theoretic ideas to flow problems. The discussions are predominantly mathematical, and many of the ideas are original. The book is of interest to advanced workers in fluid mechanics, aeronautical design, etc.

CLEMENTS, GUY ROGER, AND LEVI THOMAS WILSON

Analytical and applied mechanics. Third edition. New York McGraw-Hill Book Company Inc., 1951 463 p illus. 24 cm. \$5.50. 216

Contents: Vectors. Concentrated forces. Coplanar forces—resultant. Coplanar forces—equilibrium. Framed structures and trusses. Forces in space. Cable. Center of gravity. Kinematics. Kinetics of particles. Impulse and momentum. Dynamics of a body fixed and strain. Beams. Struts and columns. Combined stress. Problems for review. Appendix. Answers to problems. Index.

Note: (182) An introductory text for use in college courses offered to students who are preparing to specialize in mechanical engineering or another division of engineering that requires fundamental knowledge of mechanics. A fairly rigorous exposition of the basic mathematics and physics is combined with numerous worked examples. Through essentially the same as the text of the second edition published in 1943 revisions and additions have been made in numerous places. The authors are associated with the United States Naval Academy.

CORHEN HERBERT CHARLES, AND PHILIP STEHLER

Classical mechanics. New York John Wiley & Sons, Inc., 1950. 388 p illus. 22 cm. \$6 50 217

Contents: Kinematics of particles. The laws of motion. Conservative systems with one degree of freedom. Miscellaneous theorems on systems of particles. Lagrange's equations of motion. Applications of Lagrange's equations. Linear vector spaces. Small oscillations of conservative systems. Rigid bodies. Hamiltonian theory. Contact transformations. Contact transformations which simplify the equations of motion. Poisson brackets. Infinitesimal contact transformations. Further developments of transformation theory. Miscellaneous generalizations and analogies. Introduction to special relativity theory. The motion of particles in high energy accelerators. Index.

Note: A college textbook of interest to engineers and physicists students who are majoring in physics. It presents the knowledge and concepts in classical mechanics which are valid and useful in present-day physics and afford good preparation for the understanding of quantum mechanics.

GOLDSTEIN, HERBERT

Classical mechanics. Cambridge, Mass.
Addison Wesley Press Inc. 1950 399 p. ill.
lus. 24 cm. \$7.50 218

Contents: Survey of the elementary principles. Variational principles and Lagrange's equations. The two-body central force problem. The kinematics of rigid body motion. The rigid body equations of motion. Special relativity in classical mechanics. The Hamilton equations of motion. Canonical transformations. Hamilton-Jacobi theory. Small oscillations. Introduction to the Liouville and Poincaré formalisms for continuous systems and fields. Bibliography. Index. of symbols. Index.

Note: A new presentation of classical mechanics for graduate students in physics. Instead of following the traditional pattern for this audience the author has selected those topics which are of greatest pertinence to modern physics. A further restriction is that such topics as electricity which have already been thoroughly treated from the student viewpoint in other books are not covered. The treatment assumes that the reader will have had courses in advanced calculus and analysis. The more difficult mathematical techniques such as matrix algebra are presented in the book itself.

GURNEY RONALD WILFRID

Introduction to statistical mechanics. New York McGraw Hill Book Company, Inc., 1949 268 p. illus. 24 cm. (International series in pure and applied physics G. P. Harwell, consulting editor) \$6.00. 219

Contents (abridged): Concepts of particles. The use of undetermined multipliers. The distribution of particles through alternative sets of energy levels. The partition function and properties of statistical mechanical systems. The relation between statistical mechanics and thermodynamics. Conditions of equilibrium for partially dissociated systems. The Boltzmann and Fermi-Dirac statistics. The total energy derived by interacting particles. Classical mechanics. Variation of material and of crystal lattices. The relation of dynamic selection. Particles in electric and magnetic fields. Appendix. Name index. Subject index.

Note: An attempt to simplify the exposition of statistical mechanics so that its chief concepts and methods will be available to scientists who are not professional mathematicians. The more abstract concepts are not introduced until the latter part of the book. In the first part the emphasis is on the mathematical techniques and some of their applications. Applications to chemistry and in physics are used throughout the book. The chapter on equilibrium is intended for graduate students and scientists already in research rather than for undergraduates.

HALL, NEWMAN ARNOLD

Thermodynamics of fluid flow New York Prentice-Hall, Inc. 1951 278 p. illus. 22 cm. \$7.65 220

Contents: Introduction. Fluid friction. Energy and continuity. Momentum principles. Incompressible fluids. Perfect gases. Compressible flow. Viscous flow. Viscous flow. Shock waves. Flow measurement and control. Diffusion flow. Propulsion systems. Appendix. Conversion tables. Mathematical notes. Thermodynamic partial derivatives. Tables. Index.

Note: The combination of fluid mechanics and fluid flow is presented in this textbook to enable the student to grasp the fundamentals necessary to the analysis of fluid flow as understanding of which is important to chemical, mechanical, and mechanical engineering. While the book includes some review of both fluid mechanics and thermodynamics, the author assumes that the reader will already have acquired fundamental training in the two fields separately. Theory is emphasized, with numerous examples showing the application of the theory in practical situations. Aside from its use as textbook, the book can also be of some use as a reference source for engineers concerned with research and development in fields dependent on flow systems.

INGLIS DAVID RITTENHOUSE

Dynamic principles of mechanics. Philadelphia The Blakiston Company 1949 174 p. illus. 24 cm. \$4.00 221

Contents: Kinematics of particle. Dynamics of particle. Coupled oscillations and normal coordinates. Inverse-square force and

planetary motion. A dynamical system of several particles. Statics. Rotation of rigid body. Impact. Index.

Note: A well-organized presentation intended for course use by advanced undergraduates and also by graduates who did not have specialized course in dynamics as undergraduates. Previous courses in general physics and in calculus are assumed. It is designed as preparation for professional work in modern physics and chemistry; consequently although the subject matter is all from classical physics, the treatment is such that the student is prepared, in habits of thinking at least, for the study of quantum mechanics. The author is Associate Professor of Physics at Johns Hopkins University.

LINDSAY, ROBERT BRUCE

Physical mechanics an intermediate text for students of the physical sciences. Second edition. New York D. Van Nostrand Company Inc., 1951 451 p. illus. 22 cm. (University physics series, Leigh Page consulting editor) \$5.00 222

Contents: The elemental concepts of mechanics. Rectilinear motion of particles. Curvilinear motion in plane. Energy in particle dynamics. Statics of particles. Motion of systems of particles. Mechanics of rigid body. Constrained motion. Oscillations. Deformable bodies and wave motion. Mechanics of fluids. Advanced mechanics. Index.

Note: (401) A substantial presentation of classical mechanics. Its primary use is as a textbook in courses offered to college students who are preparing for careers in physics and who have completed through courses in elementary physics and mathematics through calculus and introductory differential equations. The treatment is analytical and considerably part of the exposition is expressed in mathematical form. The first edition was published in 1931. In this edition corrections of several important topics have been incorporated and corrections and new chapters designed to give the student more ideas of the scope of advanced mechanics have been added.

MOODY ERNEST A., AND MARSHALL CLAGETT

The medieval science of weights (Scientia de ponderibus) Treatises ascribed to Euclid, Archimedes, Thabit Ibn Qurra, Jordanus de Nemore and Blasius of Parma. Edited with Introductions, English translations, and notes, by Ernest A. Moody and Marshall Clagett. Madison The University of Wisconsin Press, 1952 438 p. illus. 24 cm. \$5.00 223

Contents: General Introduction. Part I, by M. Clagett—Part II, by E. A. Moody. *Libro Euclidis de ponderibus et levitate* (Euclid's corpusculum et levitate), edited by M. Clagett; Introduction, translation and notes by E. A. Moody. *Libro Archimedis de levi et levitate* (Archimedes' *Libro Archimedis de ponderibus*) Introduction by E. A. Moody and M. Clagett; text and translation by E. A. Moody; with additional variant readings by M. Clagett. *Libro de comensurabilibus* (Jordanus de comensurabilibus), edited, with introduction, translation and notes, by M. Clagett. *Scientia Jordanus super comensurabilibus ponderum*, edited, with introduction, translation and notes, by E. A. Moody. *Libro Jordanus de ponderibus*, translated and notes by E. A. Moody. *Libro Jordanus de ponderibus et levitate*, edited, with introduction, translation and notes by E. A. Moody. *Tractatus Blasii de ponderibus*, edited, with introduction, translation and notes by M. Clagett. Appendix: A fragment of the Roman balance attributed to Euclid, edited by M. Clagett. Thomas Bradwardine's discussion of proportion one of the *Libro de ponderibus*, edited by E. A. Moody. A fourteenth century commentary on proportion one of the *Libro de ponderibus*, edited by E. A. Moody. A varied form of proportion eight of the *Elementa Jordanus*, edited by M. Clagett. Variant readings. Signs of manuscripts and editions. Critical notes. Bibliography. Index.

Note: In this work the medieval treatises named in the table of contents have been collected and translated into English. The book is organized so that the Latin text is printed on the left-hand page and the English translation on the right-hand page. The significance of the texts is discussed in the general introduction and also in the introductions to the separate works. The book as a whole represents a real contribution to the history of classical physics.

MURPHY, GLENN

Mechanics of fluids Second edition. Scranton, Pa. International Textbook Company 1952 309 p illus 25 cm. (International text books in civil engineering Benjamin A. Whistler consulting editor) \$6 00 224

Contents: Properties of fluids. Fluids at rest. Buoyant forces. Flow of fluids. Uniform flow. Non-uniform flow. Forces developed by fluids in motion. Hydraulic machinery. University New Appendix Index.

Note: (406) In this introductory textbook basic principles underlying the behavior of fluids are presented for engineering students. Engineering applications are indicated and most of the problems pertain to such applications, but the emphasis is on the physical principles. Although about twenty pages shorter than the first edition published in 1947 material on such topics as torque converters and fluid coupling has been added. Several sections have been substantially rewritten.

STEPHENSON REGINALD JOSEPH

Mechanics and properties of matter New York John Wiley & Sons Inc., 1952 371 p illus. 24 cm. \$6.00 225

Contents: Kinematics. Force and motion of particles. Work and energy of particles. Newton's law of gravitation and some of its consequences. Free and forced harmonic oscillations. Translational and rotational motion of rigid bodies. Electricity. Statics. Hydrostatics and hydrodynamics. Wave motion. Problems. Index.

Note: An intermediate-level textbook intended for college students who are majoring in physics or in engineering. More advanced aspects of mechanics are considered and the treatment of them is more rigorous than in elementary texts. On the other hand, the author has taken special pains to make the techniques and concepts clear. Usually every explanation provides the mathematical expression and the necessary material includes many fully worked examples.

STOKER JAMES JOHN

Nonlinear vibrations in mechanical and electrical systems. New York Interscience Publishers Inc. 1950 273 p 24 cm. \$6.00 226

Contents (abridged): Linear vibrations. Free vibrations of undamped systems with nonlinear restoring forces. Free oscillations with damping and the geometry of integral curves. Forced oscillations of systems with nonlinear restoring forces. Self-excited oscillations. Hill's equation and its application to the study of the stability of nonlinear oscillations. Appendix: Mathematical justification of the perturbation method. Bibliography. Index.

Note: Essentially this book is a digest of the work done on linear vibrations from about the end of the nineteenth century when the fundamental contributions of Henri Poincaré were published, to about the end of 1930 together with sections from the significant work since that year. Applications of the mathematical techniques are indicated constantly; thus the book is of interest both to physicists and engineers who have sufficient knowledge of mathematics to follow the exposition. It is also of interest to graduate students in mathematics and professional mathematicians who may wish to pursue research in the field.

SYMPOSIA IN APPLIED MATHEMATICS

Proceedings Volume 1 Non-linear problems in mechanics of continua. New York American Mathematical Society, 1949 219 p 26 cm. \$5.25 227

Contents: Hydrodynamics. Non-linear problems in the theory of fluid motion with free boundaries. by A. Weinstein. Operator methods in the theory of compressible fluids. by L. Bergman. An existence theorem in two-dimensional gas dynamics. by I. Bern. Recent developments in free boundary theory. by G. Kilibick. Theory of the propagation of shock waves from cylindrical charges of explosives. by R. E. Brinkley Jr. and J. O. Kirkwood. The method of characteristics in the three-dimensional auxiliary supersonic flow of compressible gas. by M. Coburn and C. L. Delp. The semilinear solution of the turbulence problem. by H. W. Emmons. On the stability of incompressible flows. by Y. H. Kuo. Stability of the laminar

boundary layer in a compressible fluid. by L. Lees. Remarks on the spectrum of turbulence. by C. C. Lin. Two-dimensional compressible flows. by L. Oppenheimer. Polygonal approximations method in the hydrograph plane. by H. Porfiry. The boundary layer of yawed cylinders. by W. R. Sears. On shock-wave phenomena—interaction of shock waves in gases. by H. Polachuk and R. J. Jeffer. The breaking of waves in shallow water. by J. J. Stoker. On Hamilton's principle for perfect compressible fluids. by A. H. Tash. Elasticity and plasticity: The foundations of the theory of elasticity. by F. D. Murnaghan. On dynamic structural stability. by G. F. Carrier. Stress-strain relations for strain hardening materials. by D. C. Drucker. The edge effect in bending and buckling with large deflections. by K. O. Friedrichs. Numerical methods in the solution of problems of non-linear elasticity. by W. Kaplan. Large deflection theory for rectangular plates. by L. Levy. Discontinuous solutions in the theory of plasticity. by W. Prager. On finite deflections of circular plates. by K. Rado.

Note: Collected in this volume are the papers presented at the first Symposium in Applied Mathematics, held at New York University in August, 1947. These symposia are the result of a planned effort on the part of the American Mathematical Society to encourage activity in applied mathematics and to bring together mathematicians, physicists, engineers, and others professionally interested in the applications of advanced mathematics. This is the first publication for most of the papers, and for those the full text is given. Papers previously published elsewhere are given in abstract form.

QUANTUM MECHANICS

BOHM DAVID

Quantum theory New York Prentice-Hall Inc. 1951 646 p 24 cm. \$10 65 228

Contents (abridged): Part I. Physical foundations of the quantum theory: The origins of the quantum theory. Wave packets and De Broglie waves. The uncertainty principle. Wave vs. particle properties of matter. Part II. Mathematical formalisms of the quantum theory. Wave functions, operators, and Schrödinger's equation. Expectations, commutators and eigenfunctions. Part III. Applications to simple systems. Solutions of wave equations for square potentials. The classical limit of quantum theory. The harmonic oscillator. Asymptotic methods and the three-dimensional wave equation. Matrix formulation of quantum theory. Spins and angular momentum. Part IV. Methods of approximate solution of Schrödinger's equation. Perturbation theory: time-dependent and time-independent. Stationary and adiabatic approximations. Part V. Theory of scattering. Part VI. Quantum theory of the process of measurement. Relationship between quantum and classical concepts. Index.

Note: A relatively full introduction to the quantum theory for upper-level and graduate students majoring in physics. The author has made special effort to relate the concepts and laws of the quantum theory to classical physics and to the experiments upon which modern physics, particularly the quantum theory is based. However, though extensive use is made of experimental results in the exposition, the mathematical aspects are not slighted. A short list of supplementary reading is given at the beginning of the book and there are occasional footnote references throughout the text.

FERMI ENRICO

Elementary particles New Haven Yale University Press 1951 110 p. 23 cm. \$2.50. 229

Contents: Quanta of field as particles. Interaction of the fields. The interaction constants. Pions, mesons, and still unknown. Appendixes. Quantization of the radiation field. Second quantization with Pauli principles. Measurability of the fields. Relativistic invariance. Relationship between interaction constants.

Note: This book is in effect a survey of current thought pertaining to the composite particles of the atomic nucleus and to their interactions. Although it is based on the Killian Memorial Lectures delivered by the author at Yale University in April, 1950, it is not addressed to the general public. Instead, the intended audience includes graduate students of physics and graduate physicists who are not specialists in nuclear physics but who desire some acquaintance with current concepts.

HOUSTON WILLIAM VERMILLION

Principles of quantum mechanics. Nonrelativistic wave mechanics with illustrative applications. New York McGraw Hill Book Company Inc. 1951 288 p. illus. 24 cm.

(International series in pure and applied physics, G P Harnwell, consulting editor)
\$6.00 230

Contents (abridged) Part I, General outline of quantum mechanics. Experimental necessity for the quantum theory. Analysis of the inadequacy of classical mechanics. Formulation of quantum mechanics. The classical approximation. Motion of a particle in central field. Approximate methods. Spin and the Pauli exclusion principle. Part II, Applications to spectroscopy. Part III, Applications to collision problems. Part IV, Applications to electrons in solids. Quantum statistical mechanics. Behavior of an electron gas. Motion of an electron in periodic potential. Part V, Applications to electromagnetic radiation. Quantization of electromagnetic radiation in empty space. Interaction of radiation and matter. Mathematical appendix. Index.

Note: A comparatively short introduction to quantum mechanics. In addition to the quality of brevity the exposition tends to be clearer than in more lengthy texts. In the first three chapters series of worked experiments the results of which illustrate the foundations of classical mechanics are described, the shortcomings of classical physics are further discussed, and we have portions of quantum mechanics, one for representing the state of system, the other for representing change in system when perturbed. Most of the remainder of the book is devoted to applications of these postulates to physical problems and systems. The book is for graduate students of physics who have had an introductory course in mathematical physics.

LANDE ALFRED
Quantum mechanics. New York Pitman Publishing Corporation 1951 307 p. illus. 24 cm. \$5.50 231

Contents: The significance of waves and particles. The older quantum theory. De Broglie waves—uncertainty. Elementary wave mechanics. Approximation methods. Matrix mechanics. Mesomeric systems. Transitions in collisions. Spin and Pauli principle. Atomic and molecular spectra. Quantum statistics. The Dirac electron. The quantum theory of radiation. The many-body theory of nuclear forces. Appendix. Bibliography. Index.

Note: An introductory work suitable chiefly for upper-level or graduate college students in the sciences in physics or mathematics. Essentially, the author's method is to develop the subject by performing analysis of solvable experiments in physics, and to make these analyses in such a way that they are related to classical physics with which the student is presumably familiar. Each chapter concludes with summary and finally there is a summary of the entire book. The author is Professor of Physics at Ohio State University.

PERICO ENRICO
Fundamentals of quantum mechanics translated and edited by Georges M Temmer New York Prentice-Hall, Inc. 1950 484 p. illus. 22 cm. \$8.00 232

Contents: Part I. Historical development and experimental basis. The atomic model. Energy quanta and light quanta. Energy levels. Quantum mechanics. Part II. Wave mechanics of particles. Mathematical foundations. Probabilistic statement of atomic problems. One-dimensional problems. Three-dimensional problems. The Heisenberg-Sommerfeld theory. Part III. General methods of quantum mechanics. Mathematical introduction. General theory of quantum mechanics. The matrix method. Perturbation theory. Relativity and spin. Systems with identical particles. Bibliography. Index.

Note: The first part of this book can be substituted by practically anyone who has successfully completed an introductory course in college physics. The second part requires the mathematical knowledge that senior college students working in physics should have acquired. Although highly abstract mathematical methods have been avoided in the third part, the concepts of matrix algebra and Hilbert space are used, hence a fairly high level of mathematical education is required to read it. The book can be used either as a college textbook or as an introduction for persons out of college who have had the requisite training in basic physics and mathematics. The author is Head of the Department of Physics of Laval University, Quebec.

SCHIFF LEONARD ISAAC
Quantum mechanics. New York McGraw Hill Book Company Inc., 1949 404 p. illus.

23 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) \$6.00 233

Contents: The physical basis of quantum mechanics. The Schrödinger wave equation. Eigenfunctions and eigenvalues. Dirac's equivalent circuit theory. Commutation algebra. Collision theory. Matrix formalism of quantum mechanics. Approximation methods for stationary problems. Approximation methods for time-dependent problems. Identical particles and spin. Semi-classical treatment of radiation. Atoms, molecules, and atomic nuclei. Relativistic wave equations. The quantization of wave fields. Quantum electrodynamics. Index.

Note: A textbook designed for graduate and advanced undergraduate students who are preparing for professional work in physics. In the first chapter the author outlines the experimental evidence on which quantum mechanics is based, criticizes the old quantum theory developed by Planck, Einstein, and Bohr, and shows how quantum mechanics avoids the difficulty of the old theory. The remainder of the book is devoted to the mathematical theories and techniques of quantum mechanics, and here the exposition is full and is supplemented by numerous worked examples.

SLATER JOHN CLARKE
Quantum theory of matter New York McGraw Hill Book Company, Inc. 1951 528 p. illus. 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) \$7.50. 234

Contents: De Broglie waves and wave mechanics. Schrödinger's equation. Average values and matrix. Perturbation and the action of radiation. The hydrogen atom. The central field model for atomic structure. Molecular structure. The hydrogen molecule. Interatomic and intermolecular forces. The metallic state. Mechanical, chemical, and thermal properties of matter. Electrical conductivity. The nature of dielectrics. Magnetism. Appendixes. Suggested references. Index.

Note: An introductory treatment of the quantum theory as it relates to the structure of atoms, molecules, and solids. One or two courses in basic mathematics at the college level as the part of the reader has been assumed. Most of the discussion is in narrative form rather than in mathematical synthesis. The book is addressed to advanced undergraduates and graduate students of chemistry, metallurgy and physics. It takes the place of the section on quantum mechanics in *Introduction to theoretical physics*, New York, 1933, by Slater and K. H. Frank and forms a part (though it can be read independently) of the exposure of that work to a few relevant chapters of the present work and three other leading titles: *Mechanics* by Slater and Frank, *Electromagnetism* by Slater and Frank, and *Introduction to chemical physics* by Slater alone.

ATOMIC AND NUCLEAR PHYSICS
ANNUAL REVIEW OF NUCLEAR SCIENCE. Vol. ume 1 Stanford, Calif. Annual Reviews, Inc. in co-operation with the National Research Council of the National Academy of Sciences, 1952 645 p. illus. 23 cm. \$6.00 235

Contents: Modern physics, by R. R. Marshall. Recent developments in the theory of nuclear structure, by R. F. Fieser. Energy levels of light nuclei, by T. Lauritzen. Nuclear moments, by M. R. Hargreaves. Nuclear interactions of cosmic rays, by R. V. Adams. Mass and relative abundances of isotopes, by A. O. Haxel. High energy accelerators (standard cyclotrons) by M. S. Livingston. High energy accelerators (synchrocyclotrons) by M. S. Livingston. High energy accelerators (proton synchrotrons) by M. S. Livingston. High energy accelerators (synchrotrons) by J. E. Thomas, Jr. and others. High energy accelerators (linear accelerators), by J. C. Slater. Detection of slow particles, by W. H. Jordan. Chemistry of unsoluble elements, by J. J. Katz and W. M. Mendenhall. Electrochemical separation of stable isotopes, by C. F. Kohn. Chemical separation of stable isotopes, by G. H. Cowell. Isotopic tracers in chemical systems, by R. R. Edwards. Analytical nuclear chemistry, by C. J. Ralston. Atomic and molecular spectroscopy, by G. H. Dole. Low temperature phenomena, by C. T. Loo. Progress in metallurgy, by R. A. Rogers and F. H. Spedding. Geochemistry, by M. Fleischer and J. C. Rabalais. Gemological effects of radiation, by R. F. Kohn. Some aspects of the biological action of high energy radiation, by H. M. Pitt. Radioisotopes in biochemical and medical research, by

C. A. Viles. Stable isotopes in biochemical research, by D. Rittenberg and T. D. Price. Radioisotopes in soil research and plant nutrition, by S. B. Mandelkern and L. A. Doss. Indiana.

Note. The first volume of a new material series the purpose of which is to survey significant developments in nuclear science. Developments during the year 1950 are emphasized, but few of the authors have confined themselves to this single year. In fact, a number of the authors appear to have surveyed the literature from 1945 through 1950 and some have included a few papers published in 1951. Each of the chapters is essentially literature digest and is supplemented by an extensive list of references. The series is sponsored by the Committee on Nuclear Science of the National Research Council. It is addressed to graduate scientists.

BITTER FRANCIS

Nuclear physics. Cambridge Addison Wesley Press, Inc. 1950 200 p illus. 23 cm. \$5.50 236

Contents: The evolution of nuclear physics. Definitions and nomenclature. Forces, electron, and quanta. Neutrons, neutrons, and alpha rays and neutrons. Masses and moments. Radioactivity. Nuclear reactions. The consequences of fission. Table of approximate values. Table of conversion factors. Alphabetical list of the elements. Periodic table of the elements. A-W chart of nuclear data. Index.

Note: A college textbook designed for students who have already taken courses in introductory physics and in general atomic theory. Its scope is in the title (indicates) the physics of the atom, cyclotrons and other machines for bombarding nuclei are discussed briefly. The author is Associate Professor of Physics, Massachusetts Institute of Technology.

BLATT JOHN M., AND VICTOR F WEISSKOPF

Theoretical nuclear physics New York John Wiley & Sons 1952 864 p illus. 24 cm. \$12.50 237

Contents: General properties of the nucleus. Two-body problems at low energies. Nuclear forces. Two-body problems at high energies. Three- and four-body problems. Nuclear spectroscopy. I. General theory—II. Special models. Nuclear synthesis: General theory—Application of the theory to experiments. Formal theory of nuclear reactions. Spontaneous decay of nuclei. Interaction of nuclei with electromagnetic radiation. Beta-decay. Nuclear shell structure. Appendixes. A. Angular momentum operators and eigenfunctions—B. Multiple reflection. References. Index.

Note: Generally speaking the scope of this book is classical nuclear physics, or rather phenomena involving energies of about 50 Mev and below. Thus cosmic rays and nuclear phenomena are not covered. Within this limitation the authors present the current theories, theoretical nuclear physics, and the experimental evidence which supports them, together with the pertinent mathematical formulas and manipulations. The book is addressed to graduate students of physics and graduate physicists already engaged in research. Readers need previous introduction to quantum mechanics.

BLEULER ERNST AND GEORGE J GOLDSMITH

Experimental nuclear physics New York Rinehart & Company Inc. 1952 393 p illus. 24 cm. \$6.50 238

Contents (abridged): Radiation protection. Laboratory equipment. Properties of sources. Part I. General techniques: Techniques of measurements with Geiger-Müller counters. Relative beta measurements. Absolute beta counting. Neutron activities of alpha. The naturally occurring radioactive substances. Measurement of source strength by comparison with ^{226}Ra . Measurement of thermal neutrons in water. Absorption of continuous beta spectra. Absorption of gamma rays. Part II. Chemical techniques. Separation of active material by solvent extraction. The fission (Chadwick) process with alkali metals. Separation by ion exchange. Electrochemical separations. Preparation of carrier-free source. Radiochemicals as tracers. Separation of nuclear isomers. Preparation of ^{22}F . Measurement of C^{14} with an ionization chamber. Part III. Physical techniques. Range and energy loss of alpha particles. Tracks of particles in photographic plates. Scintillation counters. Coincidence measurements. Reductions of $\text{Cu}^{64}(\text{Zn}^{64})$. Cosmic rays. Appendix. Author index. Subject index.

Note: Primarily laboratory manual for advanced college students who have acquired fundamental knowledge of nuclear physics and chemistry. Specific procedures are described for 14 experiments, most

of which can be performed with naturally radioactive materials. In each case the procedures are preceded by a thorough discussion of the points illustrated by the experiment together with their applications in nuclear physics and other fields of scientific investigation where radioactive materials are used. The authors are members of the faculty of Pacific University.

CORK, JAMES MURIE

Radioactivity and nuclear physics. Second edition. New York D Van Nostrand Company, Inc. 1950. 415 p illus. 22 cm. \$6.00. 239

Contents: Mutual radioactivity. The detection of radiation. Induced radioactivity—alpha rays. Beta rays. Gamma radiation. Neutrons. Protons, deuterons, and tritons. Mesons (mesotrons). Cosmic radiation. Nuclear fission. Some applications of radioactivity. Health physics. Table of isotopes. References. Appendix: Fundamental constants. Useful information concerning electrons. Data on electron times. Useful information regarding protons in motion. Useful information regarding alpha particles. Excitation potentials for the elements, in eV. Index. Author index. Subject index.

Note: (201) An introductory work designed primarily as text for college students, but as original and written that it is useful also to persons outside of college who have moderate amount of technical education and are in need of a fairly substantial survey. Under such heading the historical background is sketched briefly, the current knowledge is summarized together with formulas and data. The first edition was published in 1947. This edition published only three years later contains much added information, including the two new chapters on neutrons and on health physics. The Table of Isotopes and the literature references have also been revised.

DUSHMAN SAUL

Fundamentals of atomic physics. New York McGraw Hill Book Company, Inc., 1951 294 p illus. 24 cm. \$6.00 240

Contents: A brief history of physics. Mathematical introduction. Kinetic theory of gases—molecular velocities. Kinetic theory of gases: mean free path and molecular diameter. Gases and heat of reaction. Electrostatics. Photoelectric effect. X-rays. Bohr theory of the origin of spectral lines. Electron collisions in gases and the periodic arrangement of the elements. Matter waves. Isotopes. Nuclear phenomena. Gammas for acceleration of high-energy particles. Appendixes. Index.

Note: A book developed from material originally prepared by him in short courses offered to high-school teachers of science under program sponsored by the General Electric Company. The treatment is compact and a good deal of ground is covered. The reader needs knowledge of basic physics and of elementary calculus, but aside from these requirements the book is not difficult to comprehend. It is suitable not only for teachers but also for such readers or engineers who want a fairly solid book for personal reference.

FINKELNBURG WOLFGANG

Atomic physics, translated from the revised German edition in cooperation with the author by George E. Brown. New York McGraw Hill Book Company, Inc. 1950 498 p illus. 23 cm. (International series in pure and applied physics, G. P. Harnwell, consulting editor) \$7.00 241

Contents (abridged): Introduction. Atoms, ions, electrons, atomic nuclei, photons. Atomic spectra and atomic structure. The atomic theory according to quantum mechanics. Nuclear physics. Molecular physics. Atomic physics of the liquid and solid state. Appendix: The most important constants and useful relations of atomic physics. Index.

Note: A comprehensive treatment of atomic and molecular physics designed for upper-level undergraduate college students who are majoring in physics and for graduate students. It should be useful also to physicists and chemists. He completed his college studies before atomic physics was given its present emphasis. The chapters are supplemented by well-selected and rather extensive references. The first edition of the book was written in 1944. The present edition is published in Germany in 1948. The present edition is translated from the manuscript of the revised German publication of

GLASSTONE, SAMUEL

Sourcebook on atomic energy New York
D Van Nostrand Company Inc. 1950 546
p illus. 24 cm. \$3 40 242

Contents: Foundations of the atomic theory. Constituents of the atom. Energy and radiation. The structure of the atom. Natural radioactivity. Measurement of radioactivity. Nuclear reactions. Isotopes. The acceleration of charged particles. Nuclear transmutation and artificial radioactivity. The neutron. Nuclear structure and nuclear forces. Nuclear fission. The utilization of nuclear energy. The new elements. The uses of isotopes. Cosmic rays and mesons. Radiation protection and health physics. Name index. Subject index.

Note: This book is not a popularization in the usual sense of the term, but is intended as a readable presentation in terms that such non-specialist readers as journalists, teachers, and industrial executives can understand. In each chapter the historical development of the particular field under discussion is outlined, then, factual, non-sensational detailed account of the present state of the subject is given, excepting, of course, information not yet released for publication by the Atomic Energy Commission. The sources of scientists who have contributed to the development of atomic energy and the knowledge of the atom are mentioned frequently and are brought together in the author index; but there is no formal bibliography.

GRAVES ALVIN C, AND DAROL K. FORMAN,
editors

Miscellaneous physical and chemical techniques of the Los Alamos project experimental techniques New York McGraw Hill Book Company Inc. 1952 323 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division v vol. 3) \$4.25 243

Contents: Properties of feds, by R. W. Dornes and others. Neutron sources, by A. C. Graves and others. The mechanical technique, by D. Karst. Models and other techniques used with ion accelerators, by R. D. McDaniell and others. Topics on vacuum techniques, by T. Seyler and D. Lipkin. Optical methods and instruments, by J. E. Mack. Index.

Note: Some of the techniques described in this book are similar to those already in fairly wide use in research laboratories. On the other hand, many of the techniques are original or were specially tailored for use in the work of the Los Alamos project. The name is true of instruments and apparatus. For example, the chapter on vacuum techniques contains descriptions of four different pumps, two of which were special developments and two of which are commercially available. The book is of interest not only to research workers in the field of nuclear physics, but also to physicists and chemists working in a variety of research fields.

HALLIDAY DAVID

Introductory nuclear physics. New York
John Wiley & Sons, Inc., 1950. 558 p. illus.
22 cm. \$6 75 244

Contents: Basic nuclear concepts. Alpha and gamma emissions. Electrons in disintegration processes. Interaction of charged particles with matter and photons with matter. Detection of charged particles and photons. Neutrons—production, detection, and interaction with matter. Nuclear masses, mass numbers, and mass abundances. Nuclear forces. Charged particle accelerators. Nuclear reactions. Nuclear fission. Cosmic rays. Nuclear spin and magnetism. Appendix. Author index. Subject index.

Note: A rather full and satisfactory presentation written in the terms of logical reasoning or experimental physics. Special attention has been given to indicate the experimental basis of theories, and the illustrations include many diagrams of experimental setups. Familiarity with algebraic computations has been assumed. However, the mathematics is not rigorous in the sense that derivations of all the equations are included. Related literature is cited both in the text and by location, and the names of authors of cited articles are entered in the author index. The book is designed for upper-level and graduate students who have studied general physics.

LEVERENS HUMBOLDT WALTER

An introduction to luminescence of solids.
New York John Wiley & Sons, Inc. 1950.
569 p. illus. 24 cm. \$15.00 245

Contents: The elements of matter and luminescence. Solids (crystals). Synthesis of luminescent solids (phosphors). Constitution, structure, and energy levels of phosphors. Luminescence of phosphors. General properties of phosphors (review of useful phosphors). Uses of phosphors. Appendixes. Preparation of pure ZnS, CdS, and ZnSe. Properties of luminescent and structurally adjacent impurity elements, assuming random distribution. Interconversions of some states of luminescence (surface brightness). General spectral characteristics of luminescence (radiance). Summary of some important and structures involved in the luminescence of solids. References. Formula index. Name index. Subject index.

Note: A systematic and lucid presentation of theoretical and practical information on phosphors. It has been written for such persons as graduate physicists who are beginning to work in the field and for other non-specialists who are familiar with basic physical concepts. The text is compact and is keyed to the bibliography which runs to 750 references. The author is associated with the RCA Laboratories and has himself made important contributions to the basic knowledge of the field.

MARSHAK ROBERT E.

Meson physics. New York McGraw Hill Book Company Inc., 1952 378 p. illus. 24 cm. (International series in pure and applied physics G F Harwell consulting editor) \$7.50 246

Contents: Single production of mesons in photon-nucleon collisions. Single production of mesons in nucleon-nucleon collisions. Meson production of single mesons. Properties of mesons. The capture and absorption of slow negative mesons. Properties of the mesons. Nuclear interactions of fast mesons. Production of mesons at relativistic nucleus collisions. New particles and new processes. Name index. Subject index.

Note: A survey of the accumulated knowledge on the production, properties, and nuclear interactions of mesons. It is based on recent experiments and on review articles and reports are cited in the text. The author points out that he has restricted himself to "real meson production," and has not attempted to cover virtual meson theory. The book originated in a series of lectures delivered at the University of Rochester and at Columbia University in 1950. However, pertinent information published in the literature since 1950 has been added. The book is addressed to advanced graduate students and to graduate physicists working in research in nuclear physics. The same index includes the authors of all the cited papers, hence it can be used as a guide to the recent literature.

MONTGOMERY, DONALD JOSEPH

Cosmic ray physics based on lectures given by Marcel Schein at Princeton University with special contributions by Shinichi Kusaka and Niels Arley Princeton Princeton University Press 1949 370 p. illus. 24 cm. \$5 00 247

Contents: Introduction, survey of the history of cosmic ray studies. Present status of cosmic ray investigation. Principles underlying operation of some cosmic ray apparatus. Experimental methods in cosmic rays. Latency of cosmic radiation. The hard component. The soft component, by Niels Arley. Heavy particles in cosmic radiation. Appendixes: The simple Thomson theory of the motion of charged particle in the field of magnetic dipoles. Derivation of bremsstrahlung. Results from statistical shower theory. Proton-air-shower tables. Curves connecting ionization with energy loss and range in air showers, and lead, for electrons, mesons, and protons. Index.

Note: A survey designed as an introduction for intermediate and advanced students of physics. Most of the chapters are essentially digests of the published literature with references to the original sources included in the text. The chapters on apparatus and experimental methods contain discussions of the principles of apparatus used in investigations, the special problems of research in the field, and the experimental techniques, but they do not cover laboratory manipulations or the mechanical or electronic details of apparatus. Observed phenomena that have not yet been adequately explained are given considerable space, and references are made to articles in which the problems of their interpretation are discussed.

MOORE, CHARLOTTE ENMA

Atomic energy levels as derived from the analyses of optical spectra. Volume 1 The spectra of hydrogen deuterium, tritium, he-

Hum, lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, neon, sodium, magnesium, aluminum, silicon, phosphorus, sulfur, chlorine, argon, potassium, calcium, scandium, titanium and vanadium. Washington D C Government Printing Office, 1949 309 p 30 cm. (United States. Department of Commerce. National Bureau of Standards. Circular 467 issued June 15 1949) \$2.75 248

— Volume II The spectra of chromium, manganese, iron, cobalt, nickel, copper, zinc, gallium, germanium, arsenic, selenium, bromine, krypton, rubidium, strontium, yttrium, zirconium and niobium. Washington, D C Government Printing Office 1952 227 p. 30 cm. (United States. Department of Commerce. National Bureau of Standards. Circular 467 issued August 15, 1952) \$2.25 249

Note: These are the first two volumes in a series "being prepared at the National Bureau of Standards as part of a general program on the compilation of atomic energy levels derived from analyses of atomic spectra. In most instances the data are taken from published literature and references to the source articles are given. However, information from unpublished material also is included. The series is an indispensable reference work for atomic physicists, spectroscopists, and even for chemists interested in atomic structure.

OLDENBERG OTTO

Introduction to atomic physics. New York McGraw Hill Book Company Inc., 1949 373 p illus. 24 cm. \$5.50 250

Contents (abridged): Part I. Structure of matter as revealed in chemistry Part II. General. Explanation of pressure and temperature. Mean free path and viscosity. Masses and sizes of atoms. Avogadro's number Part III. Structure of electricity: Determination of e/m . Determination of the charge on the electron. Electrons in metals. Part IV. Structure of light: Photoelectric effect and the quantum of light. Fundamental law of photochemistry Part V. Electronic structure of atoms. Nuclear atom as revealed by alpha-ray scattering. Spectrum of the hydrogen atom and Bohr's theory. Methods of observation. Periodic table of elements. X-rays. Part VI. Nuclear structure. Isotopes. Natural transmutation and radioactivity. Artificial transmutations and radioactivity. Cosmic rays. Part VII. Wave nature of matter. Survey of history and method. Appendixes. Index.

Note: A relatively simple treatment of fundamental atomic physics. It is designed for college students who have not studied calculus and have had only one year of introductory physics. Its outstanding quality derives from the care the author has taken to describe the experiments and observations upon which modern knowledge of the atom is based. It has been developed from material used in an introductory course in atomic physics which the author has given at Harvard University for many years.

POLLARD ERNEST CHARLES AND WILLIAM L. DAVIDSON

Applied nuclear physics. Second edition. New York John Wiley & Sons Inc., 1951 352 p illus. 24 cm. \$5.00 251

Contents: Radioactivity, masses and atomic energy. Properties of nuclear particles. The detection of nuclear particles. Methods of accelerating atomic particles. Transmutation. Radioactivity. Techniques in artificial radioactivity. Artificial radioactivity in practice. Radio isotopes and their applications. Nuclear fission. Nuclear chain reactions. Nuclear theory and cosmic rays. Appendix. Author index. Subject index.

Note: (1951) The first edition of this book, published in 1943, was one of the few pre-World War II books to include an account of nuclear fission. Though there are now many others that contain information on this subject, this work is still one of the most readable and useful texts. A good deal of new material has been added

In this edition, including discussions of p-n theory, nuclear chain reactions, and an extensive table of data on isotopes. The book is written on the college level and is intended for students who have studied general physics.

RICE, FRANCIS OWEN, AND EDWARD TELLER
The structure of matter. New York John Wiley & Sons, Inc. 1949 361 p. illus. 24 cm. (Structure of matter series edited by Maria Goeppert Mayer) \$5.50 252

Contents: Introduction. The hydrogen atom. The periodic system. Motion and position of nuclei in molecules. Atoms and molecules in electric fields. Van der Waals attraction forces. The chemical bond. Forces in the solid state. Macroscopic properties of matter. Molecular vibrations. Electronic spectra. Nuclear chemistry. State of matter in stars. Index.

Note: In this work fundamental atomic phenomena and their greater manifestations, such as spectra, chemical bonds, and magnetism, are explained in the concepts and terms of quantum mechanics. Thus it is both an exposition of modern atomic physics and an introduction to the application of quantum mechanics. The presentation has been kept as simple as possible so that the book will be useful to chemists, engineers, and others who need non-specialist's knowledge of quantum mechanics. While each chapter the exposition is developed under short sub-topics, an accompanying list of references comprehensively makes the book useful to use as a reference aid or as "textbook."

ROSSI, BRUNO

High-energy particles. New York Prentice-Hall Inc., 1952 569 p illus. 24 cm. (Prentice-Hall physics series Donald H. Menzel editor) \$12.50. 253

Contents: Introduction. Theory of electromagnetic interactions. Experimental methods. Elementary particles. Cascade showers. Experimental results on the electromagnetic interactions of high-energy particles in cosmic rays and from artificial sources. Nuclear interactions of high-energy particles from artificial sources. Nuclear interactions of cosmic rays. Appendixes. Bibliography. Index.

Note: Although most of the text of this book is written in narrative style, it is essentially a reference book of the accumulated knowledge on the elementary particles of physics and on their behavior at high energies. Basic properties, phenomena, experimental methods, and useful formulae are included. Many data are summarized in tables or represented in graphs. The book is addressed to graduate students and research workers in nuclear physics, cosmic radiation, and related fields.

ROSSI BRUNO B. AND HANS H. STAUB

Ionization chambers and counters experimental techniques. New York McGraw Hill Book Company Inc. 1949 243 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical sections. Division V—vol. 2) \$3.25 254

Contents: Behavior of free electrons and ions in gases. Operation of ionization chambers with constant ionization. Operation of ionization chambers with variable ionization. Gas multiplication. Beta-ray Gamma-ray and X-ray detectors. Alpha particle detectors. Detectors for neutron recoil. Detectors of (α) and (β) reactions. Fusion detectors. Appendix. Index.

Note: Based on work done under the Manhattan District Project in connection with the development of the atomic bomb, this book presents—as do the others in the series—a selection of material which has potential auxiliary use and is of general scientific interest. The first four chapters deal with ionization phenomena and the general principles upon which detectors and counters are based. The remainder is devoted to descriptions of specific types of counters which were developed mainly at the Los Alamos Laboratory. The volume is of interest to research chemists and physicists working with radio-active substances.

SACKS JACOB

The atom at work. New York The Ronald Press Company 1951 327 p illus. 24 cm. \$4.00 255

Contents: On the nature of matter. Natural radioactivity: the story of radium. Matter, energy and Einstein. Exploring the nucleus. Artificial radioactivity. Machines for modern alchemy. The neutron and the chain-reacting pile. How to trace the tracer. Isotopes in the chemical laboratory. Isotopes in the biology laboratory. Radioactive phosphorus, the ideal isotope. What radiation does to living isotopes. Radioactive isotopes in hospital and clinic. Isotopes in the world of plants. Isotopes as life indicators. Atomic warfare, past and future. Useful power as the ultimate goal. Index.

Note: A multidisciplinary account of progress in the understanding and application of atomic energy and artificial radioactivity in the first three or four chapters. The historical and scientific background is skillfully outlined, and the reader is provided with thumbnail sketches of the contributions of Rutherford, Madame Curie, Bohr, Einstein and many others. It is then introduced to atomic power, radioactive isotopes, the atomic bomb and other potential radioactive weapons, and finally to cosmic power. The book is for mature readers; no weak facts rather than omissions. The author is associated with the Brookhaven National Laboratory.

THORNDIKE, ALAN M

Misconceptions a summary of experimental facts. New York: McGraw-Hill Book Company, Inc. 1952. 242 p. illus. 24 cm. (International series in pure and applied physics, G. P. Harnwell consulting editor) \$5.50 256

Contents: Evidence for the existence of atoms. Properties of elementary particles. New types of atoms. Artificially produced elements. Decay of isotopes. Detection of atoms with matter. Production of atoms in cosmic radiations. Occurrence of atoms in cosmic radiation. Chemistry. List of symbols in equations. Names index. Subject index.

Note: The available knowledge on the existence and properties of atoms is presented in this book and this knowledge is directly related to the experiments from which it has been derived. Experimental techniques are at least outlined, but in most instances the reader is referred to the original publications for detailed descriptions. However, results are fully described and are integrated with the body of experimental knowledge. No attempt is made to present modern theory. Selected lists of literature references are included in the chapters. The book is intended as an introduction to the subject for graduate college students studying in nuclear physics, and the style of presentation is largely descriptive.

UNITED STATES. ATOMIC ENERGY COMMISSION

Control of radiation hazards in the atomic energy program. Washington D. C. Government Printing Office, 1950. 230 p. illus. 23 cm. Paper \$0.55 257

Contents: (abstracted) Part one, Control of radiation hazards in the atomic energy program. Radiation safety—the problem, the program, and the record. Radiation safety in production operations. Safe handling of radioisotopes. Control of radiation in research and development. Environmental protection. Control of hazards at weapons tests. The AEC program for radiation control. Detection instruments for radiation protection. The costs of radiation protection. Part two, Highlights of progress in 1950. Appendixes.

Note: Continuing the pattern of previous industry reports to the United States Congress, this eighth semiannual report of the Atomic Energy Commission contains, aside from a summary of the major developments during the first half of 1950, a review in some detail of major phases of the national atomic energy program, namely the control of radiation hazards. This information was published not only to inform the public generally but also to make available information needed in civil defense activities.

UNITED STATES NATIONAL BUREAU OF STANDARDS NUCLEAR DATA GROUP

Nuclear data. A collection of experimental values of half lives, radiation energies relative isotopic abundances nuclear moments, and cross sections compiled by National Bureau of Standards Nuclear Data Group. Katherine Way [and others] (January, 1950) with assistance from Information Division,

Brookhaven National Laboratory Chemistry Division University of California Radiation Laboratory Nuclear Chemistry Group, Massachusetts Institute of Technology Nuclear Data Committee Oak Ridge National Laboratory Washington D. C. Government Printing Office, 1950. 309 p. and Supplements 1-3 illus. 29 cm. (United States National Bureau of Standards, Circular 499) Paper \$4.25 including supplemental service. 258

Contents: Explanation of tables: General. Notations cross sections for natural elements, β and stable nuclei, β and active nuclei. Abbreviations. Indices to tables: Alphabetical index to elements, Atomic number index to elements. Index for chemical radioactive families. Tables. List of other collections of nuclear data. References.

Note: This set of tables is a large-scale beginning of periodic tables to summarize and describe the known members of the nuclear population now amounting more than 1700 and still growing. It is collected from various listed sources the pertinent information needed by research workers in the field of nuclear physics. It makes the common data useful as a generator of new investigations and to facilitate the ability of writing reports, similar information from different sources, even though in conflict, is presented here available without attempt to select "best" values. Question marks placed after specific values and followed by references indicate doubts on the part of the experimenters as to the validity of the data. All values are documented by references. The arrangement of the tables is by elements according to their atomic numbers. The three supplements regarding additional values were based at 6-months intervals after the original data book. Text and tables are reproduced from typewritten copy.

YAGODA, HERMAN

Radioactive measurements with nuclear emulsions. New York: John Wiley & Sons Inc., 1949. 356 p. illus. 22 cm. \$7.00 259

Contents: Photographic detection of nuclear particles. Comparison of scintillation and photographic methods. Laboratory manipulations. Alpha-particle patterns on silver emulsions. Quantitative aspects of the alpha particle pattern. Radiochemical studies with nuclear emulsions. Alpha particle patterns of uranium and thorium minerals. Alpha traces in crystallography and metallurgy. Kinological applications of alpha-particle tracks. Principles of beta-particle autoradiography. Applications of beta-ray patterns. Applications in nuclear physics. Bibliography. Appendixes: Range-energy relations in thin nuclear research emulsions. Atomic constants and conversion factors. Author index. Subject index.

Note: A monograph on the use of photographic emulsions in the detection, analysis, and measurement of radioactive radiation. It is written on the research level and is intended for the information of biologists and physicists. Though the historical development is covered, the greater part is devoted to techniques, which are described in adequate detail for practical laboratory use. The book is based on an extensive literature survey. Keyed references to sources are incorporated in the text.

SOUND

BERANEK, LEO LEROY

Acoustic measurements. Prepared under the auspices of the Office of Naval Research Navy Department, Washington, D. C. New York: John Wiley & Sons Inc., 1949. 914 p. illus. 22 cm. \$7.00 260

Contents: Introduction and terminology. The medium. Disturbances of phase sound wave by obstacles and by finite bodies. Primary techniques for the measurement of sound pressure and particle velocity and for the absolute calibration of microphones. Microphones and ears. Measurement of frequency. Measurement of acoustic impedance. The soundometer. Sound sources for test purposes. Characteristics of random noise: the response of listeners to random noise and complex waves. Inducting and integrating instruments for the measurement of complex waves. Analysis of sound waves. Noise tests for communication systems: the rating of microphones, amplifiers, and loudspeakers. Tests for laboratory and noise microphones. Tests for loudspeakers. Testing of communication sys-

loss components. Articulation test methods. Measurement of the acoustic properties of rooms, studios, and auditoriums. Measurement of acoustical materials. The sound level meter. Author Index. Subject Index.

Note: A comprehensive reference book written on the graduate-professional level. It is designed as an aid to the five main groups of research workers: the acoustic physicist making fundamental laboratory measurements; the communications engineer measuring and evaluating the performance of audio communications systems; the psychologist performing measurements involving the human hearing mechanism; the otologist studying hearing defects and; finally the industrialist applying acoustic measuring techniques in manufacturing processes.

CARLIN BENSON

Ultrasonics New York McGraw Hill Book Company Inc., 1949 270 p illus. 24 cm. \$5.50 261

Contents: Ultrasonic waves. Ultrasonic waves further theory. Crystals for ultrasonic use. Crystal holders for ultrasonic use. Resonance and reflection. Continuous-wave ultrasonic systems. Pulsed ultrasonic systems. Ultrasonic apertures. Magnetostriiction. Practical considerations in the application of ultrasonics. Index.

Note: A survey of the basic phenomena of radiation in the ultrasonic range and of some of the applications. The author has done extensive experimentation in the field himself, and the book incorporates results of his own work as well as the published results of others. It is especially useful for its descriptions of fundamental apparatus such as crystal holders and basic circuits. The book is suitable as an introduction for such readers as scientists making observations outside the field of their own specialties. Also it can be read by laymen who have an acquaintance with basic electronic terminology.

OLSON HARRY FERDINAND

Musical engineering an engineering treatment of the interrelated subjects of speech, music musical instruments acoustics, sound reproduction and hearing. New York McGraw Hill Book Company Inc. 1952 369 p illus. 24 cm. \$7.00 262

Contents: Sound waves. Medical terminology. Medical scales. Resonators and radiators. Musical instruments. Characteristics of musical instruments. Properties of music. Theater, studios, and room acoustics. Sound reproduction systems. Index.

Note: A synthesis of psychological, physical, and technical information that bears on speech, its reproduction and hearing. The synthetic approach makes the book potentially useful to wide variety of readers including musicians interested in the technical and psychological aspects of their art, architects and engineers concerned with acoustics, and engineers and technicians interested in sound reproduction. The chapter on musical instruments contains descriptions of not only the better known instruments but also of such devices as radio horns and electrical calluses. Discussions of microphones, loudspeakers, telephones, disc phonographs, and hearing aids are included in the chapter on sound reproducing systems. The author is Director of the Acoustical Laboratory of RCA Laboratories.

THERMODYNAMICS AND HEAT

BERGMANN PETER GABRIEL

Basic theories of physics heat and quanta. New York Prentice-Hall, Inc. 1951 300 p. illus. 22 cm. (Prentice-Hall physics series Donald H. Menzel, editor) \$7.35 263

Contents: Part I. Heat. The kinetic hypothesis. Statistics in physics. Stationary ensembles. Thermodynamics, the first law. Thermodynamics, the second law. Thermodynamics, statistical mechanics, and heat-death. Part II. Quanta. Summary of classical statistical mechanics. Early quantum theories. Atomic spectra. Probability waves. Quantization in wave mechanics. Approximation methods. The abstract theory. Summary and outlook. Further reading. Index.

Note: A textbook for graduate students in theoretical physics. The purpose of this and the companion work described below is to introduce students to the fundamental ideas on which they can build up the detailed technical knowledge required of the modern practicing physicist. This book deals with the derivation of these

retical physics by the atom. Part I being devoted to the classical theory of heat from a statistical point of view. Part II being an introduction to quantum mechanics based on historical lines.

CAMPBELL CHARLES H.

Modern pyrometry New York Chemical Publishing Company 1951 150 p. illus. 23 cm. \$4.00 264

Contents: Types and uses of thermocouples, lead wires, and protection tubes. Temperature indicators, recorders, and controllers. Other methods of temperature measurement and control. Applications, care and maintenance of pyrometers. References. Appendix. Index.

Note: A brief but useful survey of currently used methods and instruments for the measurement of high temperatures. It is based on lectures prepared for delivery before meeting of the American Society for Metals. Instruments used in the measuring and recording of temperatures in the metallurgical industries are emphasized. The book is designed for laymen in the metallurgical industries and other persons who need practical information.

LONDON, FRITZ

Superfluids. Vol. 1 Macroscopic theory of superconductivity New York John Wiley & Sons Inc., 1950 161 p illus. 24 cm. (Structure of matter series Maria Goeppert Mayer advisory editor) \$5.75 265

Contents: Some properties of superconductors and their thermodynamic correlation. The electrostatics of the pure superconducting state. The intermediate state. The phase transition into the superconducting state reconsidered. Program for the microscopic theory of superconductivity. Name Index. Subject Index.

Note: The first volume of detailed presentation of an electrostatics of superconductivity developed by the author and his brother in 1944. The main postulates of the theory is new relations between magnetic field and electric current which in superconductors replace Ohm's law. The work is of interest to physicists, especially those doing research in the low temperature field and those who speculate in quantum mechanics.

SEARS FRANCIS WESTON

An Introduction to thermodynamics the kinetic theory of gases and statistical mechanics. Cambridge Addison Wesley Press, Inc., 1950 348 p illus. 23 cm. (Addison Wesley physics series Francis Weston Sears, consulting editor) \$6.50 266

Contents: Thermodynamic systems. Equations of state. Work. The first law of thermodynamics. Some consequences of the first law. Changes of phase. The second law of thermodynamics. Entropy. Combined first and second laws. Some engineering applications of thermodynamics. Kinetic theory of an ideal gas. The distribution of molecular velocities. Transport phenomena. The Maxwell-Boltzmann statistics. Applications of statistical theory. Quantum statistics. Low temperature physics.

Note: A college textbook originally written for use in courses given by the author to students of electrical engineering at the Massachusetts Institute of Technology. The treatment assumes little degree of mastery in physical and mathematical thinking. The discussions are clear, compact, and are amply supplemented by worked examples and diagrams. In addition to its intended use, the book should be of interest to persons with scientific education who desire short discussions of such topics as quantum statistics, superconductivity and magnetic cooling.

SHENKER HENRY AND OTHERS

Reference tables for thermocouples, by Henry Shenker John L. Lauritzen Jr., and Robert J. Corruccini. Washington, D. C. Government Printing Office 1951 71 p. 26 cm. (United States National Bureau of Standards. Circular 508) Paper \$0.35 267

Contents: Introduction. Part I, Celsius (Centigrade) tables. Platinum versus platinum-10 percent rhodium thermocouples. Platinum

various platinum-13-percent rhodium thermocouples. Chromel-constantan thermocouples. Copper-constantan thermocouples. Chromel-constantan thermocouples. Part II, Fahrenheit tables: Platinum-variant platinum-10-percent rhodium thermocouples. Platinum-variant platinum-13-percent rhodium thermocouples. Chromel-constantan thermocouples. Copper-constantan thermocouples. Chromel-constantan thermocouples.

Note: A compendium of reference tables for all the common commercial thermocouples. The tables are expanded from earlier similar tables published by the National Bureau of Standards and incorporate recent changes in electrical units and temperature scale. Electromotive force is expressed in absolute units and temperatures are expressed on the International Temperature Scale of 1948. References are given for the sources on which the tables are based. Revised tables for iron-constantan thermocouples are to appear in separate publication.

SYMPOSIUM ON LOW TEMPERATURE PHYSICS

Low-temperature physics. Proceedings of the NBS Semicentennial Symposium on Low-Temperature Physics held at the NBS on March 27, 28 and 29 1951 Washington, D. C. Government Printing Office, 1952 291 p. illus. 24 cm. (United States National Bureau of Standards. Circular 519) \$1.75 268

Contents: Theory of the superconducting state, by H. Fritsch. Superconductivity and lattice vibrations, by J. Bardeen. On the nature of the superconducting transition, by L. Tien. Field-theoretic description of interactions in superconductors by M. Dineken. Dynamical equations for the theory of superconductivity by W. Riedel. Superconductivity of isotopes of mercury and tin, by C. A. Reynolds and others. Recent work at the National Bureau of Standards on the isotope effect, by E. Merz. Superconductivity of the boron, by J. M. Lock and others. Superconductivity at the Curie temperature, by K. Y. Ruan. Superconductivity in superconducting alloys, by J. K. Hulth. Experiments on the magnetic transition from the superconducting state to the normal state, by M. P. Gerslitz and R. Busch. New experiments on the superconductivity of multi-layered condensed films at low temperatures, by R. Krich. Kinetics of the superconducting phase transition, by T. E. Fisher. Superconducting properties of lithium-fluorine alloys, by J. W. Street and L. Gutman. Investigation of superconductivity in lead compounds, gold alloys, and methylene chloride, by R. P. Hefner and K. Lach. Superconductivity in MgTi and LiTi, by L. Gutman and J. W. Street. New superconducting compounds, by R. T. Matlack and J. K. Hulth. Occurrence of superconductivity below 1°K, by R. A. Gaudin. Penetration of magnetic field into the superconducting film, by J. M. Lock. Magnetic properties of helium superconducting lead spheres, by J. Hefner. Helium-3 exhibiting superconducting behavior, by R. H. Pry and others. Rotor currents and superconductivity in rotating metal spheres at liquid helium temperatures, by F. R. Allen and others. Atomic band of helium at liquid-helium temperatures, by J. R. Clement and E. R. Gaudin. Specific heat of helium at various temperatures, by A. Brown and others. High-frequency resistance of the lead, and helium, by C. J. Gerslitz and J. F. Hagen. Detection of microwave signals by NMR superconductors in the transition region, by J. V. Lebacqz and M. G. Redner. Properties of liquid He-He³ mixtures, by J. O. Drenth and C. F. Moss. Phase diagram of deuterium of He³ in He⁴ below the lambda point, by H. S. Sauerbrey, Jr. A Bose-Einstein model of liquid helium applied to solutions of He³ in He⁴ by W. Gend. Reheating of He³ by D. W. Osborne and others. Liquid helium research in the Royal Society Mond Laboratory, by E. R. Aitken and others. Propagation of second sound below 1°K, by D. V. Osborne. Pressure dependence of second-sound velocity in liquid helium II, by E. D. Mayer and M. A. Martin. The General Rayleigh data at liquid helium II, by J. R. Patton and W. B. Beeman. Apparatus for measuring the pressure dependence of the viscosity of liquid helium, by H. H. Kahn and M. A. Martin. Remarks on scattering of slow neutrons by liquid helium, by L. Goldstein. Flow properties of helium II, by K. Mandelstam. Transport rates of the helium II film over various surfaces, by J. O. Drenth and M. A. Brown. Adhesive coefficients in liquid helium, by J. K. Hulth. Helium II films, by D. G. Hershner and L. C. Jackson. Some preliminary observations of helium adsorbed on glassy solids, by G. S. Adams and E. V. R. Monaghan. Thermal conductivity of liquid helium I, by C. G. Overton. Evaporation rate of liquid helium I, by A. Wucher. Methods of determining very low thermal-conductivity temperatures, measurements with platinum-chromium alloys, by D. de Clerk. Behavior of single crystals of cadmium-silver alloys below 1°K, by R. Mahler. A new effect found in permanganate crystals below 100 millikelvin absolute: the critical-field curve

bounding the antiferromagnetic state, by C. G. R. Garrett. A new experimental method for the measurement of temperature and entropy at and below 1°K, by L. D. Roberts and J. W. T. Dobbins. Some laboratory aids to cryogenic research, by W. E. Hurry. Current sensitivity and other characteristics of metal films at low temperatures, by A. van Lierck. The electric conductivity of graphite at liquid helium temperatures, by L. Meyer and others. Normal resistivities at low temperatures, by K. Mandelstam. Infrared absorption by metals at low temperatures, by K. O. Ruan. The de Haas-van Alphen effect, by D. Shoenberger. Approximate calculations of the surface impedance of metal in the anomalous region, by P. M. Marcus. Magneto-resistance of superconducting mercury, by T. G. Barfoot and C. T. Lane. Magnetic susceptibility of liquid sulfuric acid and the heat of desorption of (NH₃) by A. L. Smith and H. L. Johnston. Heat capacity of solid desorption from 1.5° to 12°K, by D. D. Gosselin and others. Compressibility of liquid normal hydrogen from the boiling point to the critical point at pressures up to 100 atmospheres, by W. E. Kuttler and others. Elastic constants of rock salt, by W. C. Overton, Jr., and R. L. Soria. Specific heat of silicon below 100°K, by P. H. Keesom and M. P. Furukawa. Optical properties of F-centers in liquid-helium temperatures, by E. Baranov and J. J. Oberly.

Note: A collection of 61 monographs, most of them brief. They were delivered originally as papers at one of the 1951 symposia conducted in observance of the fiftieth anniversary of the establishment of the National Bureau of Standards. Most of the papers are illustrated and include bibliographical references.

WEBER, ROBERT L.

Heat and temperature measurement. New York: Prentice-Hall, Inc. 1950 422 p. 22 cm. (Prentice-Hall physics series, Donald H. Menzel editor) \$6.65 269

Contents: (abridged) Part I, Principles of heat and temperature measurement: Temperature scales. Expansion thermometers. Heat transfer. Thermoelectricity. Radiant energy. Optical and radiation pyrometry. Resistance thermometry. Calorimetry. Phase diagrams. Thermal analysis. Thermodynamics. Extreme temperatures. Special methods of temperature measurement. International temperature scale. Part II, Laboratory experiments. Appendix: How to solve physical problems. General laboratory procedures. Symbols and quantities. Tables. Index.

Note: (654) An elementary but rather thorough description of basic techniques and apparatus applicable to the measurement of temperature and heat flow. Clearly it is a laboratory manual for the use of college students who have had an introductory course in physics. The discussion of experimental procedures are full enough to make them useful as guides to scientists out of college who need directions for projects involving heat measurement. Enough thermodynamic theory is included to make the book essentially complete in itself. Each chapter includes selected bibliography. The book is reviewed in the author's *Temperature, measurement and control* (Philadelphia, Blaisdell, 1941).

LIGHT AND OPTICS

JENKINS, FRANCIS ARTHUR AND HARVEY E WHITE

Fundamentals of optics. Second edition. New York: McGraw-Hill Book Company, Inc. 1950 647 p. illus. 24 cm. \$7.50 270

Contents: (abridged) Part I, Geometrical optics: Light rays. Plane surfaces. Thin lenses. Spherical surfaces. Thick lenses. Real and virtual images. The effects of shape. Ray tracing. Lens aberrations. Part II, Physical optics: Interference of two beams of light. Interference involving multiple reflections. Fresnel's diffraction by single opening. The double slit. The diffraction grating. Fraunhofer diffraction. The electromagnetic character of light. Absorption and scattering. Dispersion. Polarization of light. Optical activity. Reflection. Magnetooptics and electrooptics. Part III, Quantum optics: Photons. Index.

Note: (645) A college textbook designed for students who have completed at least an introductory course in basic physics. The first edition was entitled *Fundamentals of physical optics*. The change in title was made necessary by the addition in the present edition of the 175-page treatment of physical optics. Another addition in the fifteen-page chapter on photons. Other changes are relatively minor but they include new or revised discussions of such topics as reflecting films, wide-angle interference, the electron microscope, and the phase-contrast microscope.

JUDD, DEANE BREWSTER

Color in business science and industry
New York John Wiley & Sons, Inc., 1952
401 p illus 24 cm. \$6.50 271

Contents: Part I, Basic facts. The eye. Aspects of color (basic terms). Color matching. Color deficiencies. Part II, Tools and techniques. Spectrophotometry. Fundamental standards in colorimetry. Visual colorimeters. Reproduction of pictures in color. Colorimetry by difference. Color standards. Uniform color scales. Color language. Part III, Physics and psychophysics of colorant layers. Gloss. Opacity or hiding power. Kubelka-Munk analysis. Identification of colorants. Formulation of colorants. Appendix. Reference index.

Note. A substantial manual of color standards, color measurement, and certain other selected aspects of color that are of particular concern to chemists and industry. It is addressed to persons with education in basic physics and some familiarity with color problems. Colorimetry is covered thoroughly and leading types of spectrophotometers are compared. Various published color standards are discussed specifically. The treatment of colorant layers, that is such finishes as varnish or wax over wood and ceramic glazes over baked clay is an analytical study based on optical principles. There is an extensive list of references to the literature. The author is on the staff of the National Bureau of Standards and has had long career in colorimetry.

JUDD DEANE BREWSTER

Colorimetry Washington, D. C. Government Printing Office 1950 56 p illus. 26 cm.
(United States National Bureau of Standards Circular 478) Paper \$0.30 272

Contents: Introduction. Definitions and nature of color. Basic principles of measurement. The standard observer, illuminants and colorimetric systems. Reflection of spectrophotometric data to colorimetric terms. Direct colorimetry. Small-difference colorimetry. Munsell photometer. Chromaticity-difference colorimetry. Photoelectric transmission colorimetry. Perceptibility of color differences. Material standards of color. Transparencies media. Density media. One-dimensional color scales. Color temperatures. Luminous grading of vegetable oils. Uniform colorimetric grading of lubricated oils. Spectral-colorimetric grading of refined petroleum. U. S. color standards for some color standards for paint vehicles. General methods. Reference.

Note. This pamphlet brings together in concise form descriptions of the standards and methods presented in many scientific and technical publications between the years 1940 and 1950. Color is defined and the basic principles of its measurement are outlined. Reflection of photometric data is described, three methods being illustrated by examples. The various methods of direct colorimetry the most useful collections of material color standards, the most widely used one-dimensional color scales, and the best known of the specifications of color having general applicability are described. The illustrative material includes 34 figures, mostly diagrams, and 19 tables. The bibliography lists 144 references.

MAERZ ALOYS AND M. REA PAUL

A dictionary of color Second edition. New York McGraw Hill Book Company Inc., 1950 208 p illus. 30 cm \$30.00 273

Contents (abridged): Introduction. Terminology of colors used. The standardization of color names. Plan of the work. Sources of names included. Names not included. Common errors in color-name usage. Members of color names. Definitions. The three attributes of color. Color matching. Appendix. Spectral reflection curves or "Dictionary of color" table. Table of principal color names, showing frequency of use. Physikal table of principal color names. Bibliography. Color plates. Broad history of color standardization. Notes on color names. Index of color names. Supplementary index of color names.

Note: A standard reference book in which common names of colors including not only such terms as "alpine green" but also such as "carmine" are identified usually with the colors that they represent or represented. Obsolete terms as well as those in current use are included. Identifications are by means of series of fifty six color plates each of which shows seventy two gradations of recognized standard color. Special plates were taken to collect permanent fields for the color plates. The first edition of the work appeared in 1930. In this edition it has been revised to include color terms in use to the end of the year 1949.

PRINGSHEIM, PETER

Fluorescence and phosphorescence. New York Interscience Publishers, Inc., 1949
794 p illus 24 cm. \$16.50 274

Contents: Introduction. General theory. Experimental techniques. Part I, Fluorescence of gases and vapors; fluorescent gases and vapors. Diatomic gases and vapors. Polyatomic gases and vapors. Part II, Fluorescence and phosphorescence of condensed systems. General survey. Fluorescence of organic compounds. Luminescence of pure inorganic compounds. Crystal phosphors. Bibliography. Author index. References under index. Subject index.

Note: A comprehensive technical survey of photoluminescence. It does not cover technical applications but theory, experimental techniques, and physical data are fully covered. In addition to numerous text there are 140 tables of data and 219 figures, many of which are graphs relating to spectra, etc. There are more than two thousand entries in the bibliography which is international in scope and comprehensive for literature published up to May 1948. The book is intended for graduate physicists and other scientists working in the field or seeking data from it. The author is associated with the Argonne National Laboratory.

VALESEK, JOSEPH

Introduction to theoretical and experimental optics. New York John Wiley & Sons Inc. 1949 454 p illus 22 cm. \$6.50 275

Contents: Geometrical optics: Fundamental principles. Ideal optical systems. Computation of constants. Physical limitations of optical images. Apertures of optical systems. Photometry and image brightness. Optical instruments. Microscopy. Physical optics: Wave propagation. Interference of light. Diffraction. Polarization and double refraction. Optical activity. Reflection and dispersion. Optical constants of isotropic substances. Rayleigh and spectra: Thermal radiation. Line and band spectra. X-ray spectra. Magnetron and electro-optics. Measurement of color. The scattering of light. Zephrim optical experiments. Appendix. Answers to problems. Bibliography. Index.

Note. Although this book is not a systematic treatise, it includes material on both geometrical and physical optics and on theory and experimental work. It is addressed primarily to advanced students of physics with an interest in optics. However, it also provides for graduate laboratory technicians and engineers at work in industry concise explications of optical concepts and techniques which are not readily found in other treatises. The author is Professor of Physics in the University of Minnesota.

SPECTROSCOPY

HERZBERG GERHARD

Molecular spectra and molecular structure. 1. Spectra of diatomic molecules. With the cooperation in the first edition, of J. W. T. Spinks. Second edition. New York D. Van Nostrand Company Inc. 1950 658 p illus. 24 cm. \$9.75 276

Contents: Introduction. Elements of the elements of atomic structure. Observed molecular spectra and their representation by empirical formulae. Rotation and vibration of diatomic molecules. Interpretation of infrared and remote spectra. Elementary discussion of electronic states and electronic transitions. Their details about electronic states and electronic transitions. Binding-up principles, electronic configurations, and valence. Conclusions and diffuse molecular spectra—dissociation and pre-dissociation. Examples, results, and applications. Appendix: Vibrational and rotational constants for the electronic states of all known diatomic molecules (table 39). Bibliography. Author index. Subject index.

Note. (240°) A treatise for advanced students of chemistry and physics and graduate research workers in these fields. It is part of a three-volume series (the third volume has not yet been published) on the measurement and interpretation of energy levels in molecules. It is based on the literature and the present edition contains bibliography of more than 1800 references. The first edition was published in 1939. The text of the present edition is based on the literature published through August, 1948. The valuable appendix table, however, includes data published as late as 1950.

KISLUK, PAUL, AND CHARLES H. TOWNES
Molecular microwave spectra tables. Washington, D. C. Government Printing Office, 1952 127 p. 26 cm. (United States National Bureau of Standards. Circular 518) Paper \$0.65 277

Contents: Introduction. Description of tables. Molecular microwave spectra tables. Molecules listed alphabetically by chemical symbol. Lines listed in order of frequency. Casimir's function. Indexes: Molecules by chemical symbol. Molecules by name. Authors listed alphabetically. Index of the molecules with the reference numbers.

Note: That group of tables gives the frequencies, assignments of quantum numbers, and intensities of about 1800 microwave absorption lines. The best available values of other pertinent molecular data, such as rotational constants, dipole moments, quadrupole coupling constants, and reaction-vibration interaction constants, are also included. The frequencies are listed once for each molecule, and again in consecutive ascending order of frequency. References are given for all data included. For easy calculation of quadrupole hyperfine structures, Casimir's function is tabulated up to $J=10$ and $I=9/2$. Explanations of the tables and short discussion of microwave spectra and important formulas are given in the Introduction.

MOORE, CHARLOTTE EDMA

An ultraviolet multiplet table. Washington, D. C. Government Printing Office 1950-52 2 sections. 78 115 p. 29 cm. (United States National Bureau of Standards. Circular 488 Sections 1-2) Section 1 paper \$0.45 Section 2 paper, \$0.60. 278

Contents: Section 1: The spectra of hydrogen, helium, lithium, beryllium, boron, carbon, nitrogen, oxygen, fluorine, neon, sodium, magnesium, aluminum, silicon, phosphorus, sulfur, chlorine, argon, potassium, calcium, scandium, titanium, and vanadium. Section 2: The spectra of chromium, manganese, iron, cobalt, nickel, copper, zinc, gallium, germanium, arsenic, selenium, bromine, krypton, rubidium, strontium, yttrium, zirconium, and niobium.

Note: The first two sections of this table extending multiplets in the far ultraviolet beyond the limit of the *Revised multiplet table* by Charlotte E. Moore (Carnegie Institute Univ. Observ. no. 70) published in 1945, which because of its limited wavelength range had proved to be inadequate. The two sections contain the leading multiplets of 125 spectra of the first 41 elements of the periodic table. The form of arrangement is identical with that of the *Revised multiplet table*, except that bibliographical references are included with each spectrum instead of being grouped together at the end.

SAWYER, RALPH ALANSON

Experimental spectroscopy. Second edition. New York: Prentice-Hall, Inc. 1951 358 p. 24 cm. \$7.35 279

Contents: History of spectroscopy. Light sources. Spectroscopic apparatus—general principles. Prism spectroscopes and spectrographs—theory and construction. Prism spectroscopes and spectrographs—types and use. The diffraction grating—theory and production. The diffraction grating—mountings and use. The photographic process. The determination of wave length. The determination of spectral intensity. Apparatus and methods of infrared spectroscopy. The spectroscopy of the vacuum ultraviolet. Spectrochemical analysis. Wave index. Subject index.

Note: (197) A useful journal of information about standard spectroscopic techniques and apparatus. It is designed for readers with practical interest in the subject, such as research workers in college laboratories and analytical chemists in industry. Readers will need background knowledge of basic physics and physical optics. In the present edition useful and rather extensive changes have been made. These include expanded discussions of certain topics, the inclusion of information from publications since 1944, and few additions to the literature citations.

UNITED STATES NATIONAL BUREAU OF STANDARDS COMPUTATION LABORATORY
Tables for the analysis of beta spectra. Washington, D. C. Government Printing Of-

fice 1952 61 p. illus. 26 cm. (United States National Bureau of Standards. Applied mathematics series 13) Paper \$0.35 280

Contents (abbreviated): Introduction. Beta spectra. References. Figure: Graph of ϵ_{max} . Graphs of A_{max} spectrum in different scales. Spectrum of A_{max} after elimination of the statistical factor. Determination of the maximum energy. Feature spectrum of Na^{22} . Fermi-Kurie plots of allowed spectra. Fermi-Kurie plot of forbidden spectrum. Graph of $F_0(2Z/137)(n/3)$. Graph of outer screening potential. Auxiliary tables: Values of α , β , and T for electrons of given momentum, p_0 . Values of α , β , A , and ϵ_0 for electrons of given kinetic energy. Table of $F_0(2Z/137)(n/3)$ illustrating the importance of the relativistic effect. Illustrating the accuracy of the Bethe-Bloch approximation. Table for the evaluation of the screening effect. Table of the Fermi function.

Note: Most of the space in this pamphlet is devoted to the table of the Fermi function. The titles of the auxiliary tables and graphs are given above. T gives the tabulation "The primary purpose of these tables is to assist in the theoretical analysis of experimental data on β ray spectra. This analysis involves the use of the function of complex argument.

ELECTRICITY

BOBORTH, RICHARD MILTON

Ferromagnetism. New York: D. Van Nostrand Company, Inc. 1951 968 p. illus. 24 cm. (Bell Telephone Laboratories series) \$17.50. 281

Contents (abbreviated): Part I, Introduction: Concepts of ferromagnetism. Factors affecting magnetic quality. Part II, Magnetic properties of materials: Technical and pure iron. Iron-silicon alloys. Iron-nickel alloys. Iron-cobalt alloys. Other high permeability materials. Permanent magnets. Part III, Magnetic phenomena and theories: The magnetization curve and the domain theory. Magnetic properties of crystals. Stress and magnetostriction. Temperature and the Curie point. Changes of magnetization with time. Special problems in domain theory. Part IV, Measurements. Appendixes: Some physical properties of the elements. Values of some constants. Magnetic properties of some materials. Bibliography. Name index. Subject index.

Note: A substantial treatise covering the modern knowledge of magnetic phenomena and magnetic materials, addressed to physicists and engineers. The bibliography alone runs to seventy-two pages. The author is a member of the technical staff of Bell Telephone Laboratories, Inc.

FRANK NATHANIEL HERMAN

Introduction to electricity and optics. Second edition. New York: McGraw-Hill Book Company, Inc. 1950 440 p. illus. 24 cm. \$ 282

Contents: Fields of force. The electrostatic field of force. The sources of the electrostatic field. Induced charges and capacity. Steady electric currents. The magnetic field of force. The magnetic field of steady currents. Induced electromotive forces and induction. Elementary alternating-current circuits. Displacement current and electromagnetic waves. Radiation of electromagnetic waves. Electric conduction in vacuum and in media. Dielectrics. Magnetic properties of matter. Electromagnetic waves in material media. Geometrical optics and simple optical instruments. Dispersion and scattering. Interference. Diffraction. Heat radiation. Appendixes. Index.

Note: (696) This collection, based on courses given at Massachusetts Institute of Technology, is designed for the use of second-year students majoring in electrical engineering or physics. Emphasis is on fundamental laws and theories and methods of application in the study of currents, electric and magnetic properties of matter and optics. The present scope and content of this revision remains the same, but the material has been expanded and rewritten to provide fuller discussion of such topics as field of force, parallel α circuits, inductance, and deflection.

GILBERT NORMAN EVERETT

Electricity and magnetism. Third edition. New York: The Macmillan Company 1950 269 p. illus. 21 cm. \$6.00 283

Contents (abridged) Electricity and the electrostatic field. Magnetics and the magnetic field. Potential. Capacity. Theory of dielectrics. Atmospheric electricity. Measurement of current. Resistance and its measurement. Measurement of potential. Electrically conductive and batteries. Direct-current dynamo machines. Measurement of inductance and capacity. Alternating-current circuits. Alternators—generators and motors. Transformers. Transmission and distribution of power. Conduction in gases. Electrons, photores, and positive ions. Thermionic electron tubes. Electrical communication. Thermoelectricity. Radioactivity and the structure of matter. Units and dimensions. Index.

Note. (494) A textbook for engineering college students who are not specializing in electrical engineering. It is more comprehensive than many of the texts planned for such students, but it is neither so full nor so difficult as textbooks intended for the use of physics majors and engineering students. In the present edition new material has been added on such topics as the betatron, chain atomic reaction, plasmas, the source of the sun's heat, and the symbolic method of treating alternating-current networks. Altogether, the changes do not add up to an extensive revision.

HARNWELL GAYLORD PROBASCO

Principles of electricity and electromagnetism. Second edition. New York: McGraw-Hill Book Company Inc., 1949. 670 p. illus. 24 cm. (International series in pure and applied physics, G P Harnwell, consulting editor) \$7.50 284

Contents: Electrostatics. Electrostatic energy; and dielectrics. Physical characteristics of dielectrics and conductors. Direct-current circuits. Mechanical effects of elements and alternating currents. Chemical, thermal, and photoelectric effects. Thermionic vacuum tubes. Electrical conduction in gases. Electromagnetic effects of steady currents. Changing electric currents and electromagnetic reactions. Magnetic properties of matter. Electromagnetic machinery. Simple circuits containing inductance, capacitance, and resistance. Coupled circuits. Rays and lines. Vacuum tube circuits. Radiation. Mathematical appendix. Index.

Note. (494) An established textbook for use in intermediate college courses offered to students who have completed courses in basic physics. It is designed as an introduction to both conceptual and theoretical electricity but there is something more emphasis on the experimental and mathematical aspects than on the theoretical. Changes in the present edition reflect advances in nuclear physics and in electronics. There are new or expanded discussions of such developments as radar, wave guides, and high-energy electromagnetic jet accelerators. In addition to its use as a text, the book has some value as a reference manual on advanced experimental techniques.

PAGE LEIGH, AND NORMAN ILSLEY ADAMS JR.

Principles of electricity and magnetism. An intermediate text in electricity and magnetism. Second edition. New York: D Van Nostrand Company Inc., 1949. 619 p. illus. 22 cm. (University physics series Leigh Page, consulting editor) \$6.00 285

Contents: Fundamental laws of electrostatics. Dielectrics and conductors. Solution of electrostatic problems. Magnetostatics. Steady currents. Chemical and thermal effects. Magnetic field of current. Motion of ions in electric and magnetic fields. Electromagnetic induction. Interaction of currents and fields. First measurements. Absolute standards and units. Alternating currents. Measurements with varying currents. Coupled circuits. Rays and lines. Electromagnetic waves. High-frequency oscillations. Index.

Note. (704) As this text is intended for use in undergraduate second-year physics courses, the treatment presupposes knowledge of elementary physics and calculus. More advanced mathematical concepts are explained in the text as needed. The treatment is considerably more analytical than is introductory texts. The first edition (published in 1921) was reprinted many times without revision. The present edition, although unchanged in scope and general arrangement, has now been revised to include new material on such topics as the cyclotron, betatron, and wave guide. The authors are members of the faculty of Yale University.

SILSBEE, FRANCIS B

Extension and dissemination of the electrical and magnetic units by the National Bureau of Standards. Washington D C. Government Printing Office, 1952. 33 p. illus. 26 cm. (United States. National Bureau of Standards. Circular 531) Paper \$0.25 286

Contents: Introduction. Fundamentals. Derivation of other units. Transfer from d-c to a-c measurements. Extension of measurement ranges: The resistance scale. The scale of direct voltage. The scale of direct current. The scale of alternating current. The scale of alternating voltage. Measurement of cross and surge voltage. Dissemination of units. International relations. Bibliography.

Note. This circular gives an overall picture of the sequence of measuring processes by which self-consistent system of electrical units is built up in the laboratories of the National Bureau of Standards. Starting with the ohm and the volt as maintained by groups of standard resistors and cells, the pamphlet describes the experimental processes by which the other electric and magnetic units, e.g., farad, henry, ampere, watt, joule, gauss, and second, are derived. It also describes the series of steps by which the scales of measurement of resistance and voltage are derived experimentally. Brief mention is made of the procedures for the dissemination of these standards of measurement throughout the world by the calibration of standard electrical measuring apparatus. An extensive bibliography lists papers describing the measurement procedures in greater detail and serves as a historical report of the work of the National Bureau of Standards in the field of electrical measurements during its first 50 years.

SKYTHE, WILLIAM RALPH

Static and dynamic electricity. Second edition. New York: McGraw-Hill Book Company Inc., 1950. 616 p. illus. 24 cm. (International series in pure and applied physics G P Harnwell, consulting editor) \$9.00 287

Contents: Basic ideas of electrostatics. Capacitors, dielectrics, systems of conductors. General theorems. Two-dimensional potential distributions. Three-dimensional potential distributions. Electric current. Magnetic interaction of currents. Electromagnetic induction. Transient phenomena in networks. Alternating currents. Eddy currents. Magnetism. Plane electromagnetic waves. Electromagnetic radiation. Wave guides and cavity resonators. Special relativity and the motion of charged particles. Appendix. Index.

Note. (707) An outstanding graduate-level text designed for students who are preparing for careers in research in physical and electrical laboratories. In it the basic laws of electrostatics, magnetostatics, and electromagnetism theory are formulated from the most rigorous experimental facts. Mathematical techniques for applying these laws to specific problems are emphasized. Much of the exposition is in the form of specific problems worked out in the text. Several hundred additional problems for the student to work are included. The first edition was published in 1929. This edition represents very extensive revision. Modifications have been revised and rearranged and units have been adopted throughout. The treatment of electromagnetic waves has been expanded so as to reflect the increased interest in the microwave range. The chapter on wave guides and cavity resonators is new.

SYMPOSIA IN APPLIED MATHEMATICS

Proceedings Volume II Electromagnetic theory. New York: American Mathematical Society, 1950. 91 p. illus. 26 cm. \$3.00. 288

Contents: The new quantum electrodynamics, by E. Pauli. A method of analytical continuation in the eigenvalues and associated problems of quantum theory (abstract) by E. Frenkel. Electromagnetism without metric, by J. L. Synge. Discontinuity in electrodynamics, by W. H. Furry. The factorization method and its application to differential equations in theoretical physics, by I. J. L. Duffin. Radiation electrical networks, by R. J. Duffin. Ray theory, by A. W. Maue. A new approach to problems in quantum electrodynamics, by C. L. Pekeris. Systems of Wiener-Hopf integral equations and their application to some boundary value problems in electromagnetic theory.

by A. K. Behn. Orbits of charged particles in constant fields (abstract) by A. H. Tash. Reflection from bands and corners in electrostatic fields (abstract) by R. O. Rice. Wave propagation in electromagnetic horns (abstract) by A. F. Burman. Problems related to measuring the field strength of high frequency electromagnetic fields (abstract) by R. Truitt. Aberration correction with electron mirrors (abstract) by E. G. Ramsey. Distribution problems in the theory of random noise (abstract) by M. Kac. Entropy and information (abstract) by M. Wiener. The statistical theory of message transmission (abstract) by Y. W. Lee. Transient response and the central limit theorem of probability (abstract) by H. Williams.

Note: Collected in this volume are papers presented at the second Symposium in Applied Mathematics, held at the Massachusetts Institute of Technology in July 1948. The papers illustrate applications of advanced mathematics to problems in electromagnetics, electrical networks, etc., and in many instances describe recently developed methods of attack. Where (abstract) is included in the title only an abstract is given in the volume; in other cases the full text is included.

SYMPOSIUM ON THE THEORY OF ELECTROMAGNETIC WAVES

The theory of electromagnetic waves. A symposium held under the auspices of the Washington Square College of Arts and Science and the Institute for Mathematics and Mechanics of New York University and the Geophysical Research Directorate of the Air Force Cambridge Research Laboratories, June 6-8 1950 New York: Interscience Publishers Inc., 1951 393 p. 26 cm. \$6.50 289

Contents: On the theory of electromagnetic wave diffraction by an aperture in an infinite plane conducting screen, by H. Levine and J. Schwinger. On systems of linear equations in the theory of guided waves, by W. Magnus and F. Oberhettinger. Wiener-Hopf techniques and mixed boundary value problems, by S. M. Karap. Asymptotic solutions of differential equations in the theory of microwave propagation, by R. E. Langer. Criteria for discrete spectra, by E. O. Frutkin. Scattering of Weyl's integral for harmonic spherical waves in arbitrary wave shapes, by H. Pashley. Kirchhoff's formula, its vector analogues, and other field equations, by S. A. Schelleng. On the diffraction theory of Geometrical optics, by H. Bremner. Diffraction and collection of pulses by waveguides and corners, by J. B. Keller and A. Block. Vector wave functions, by R. D. Spence and C. P. Welf. The W.K.B. approximation as the first term of asymptotic optical series, by H. Bremner. Remarks concerning wave propagation in stratified media, by S. A. Schelleng. The theory of message links: triple splitting, by O. E. H. Rydbeck. An asymptotic solution of Maxwell's equations, by M. Kline. Field representations in a spherically stratified medium, by M. Marcuvitz. Propagation in a non-homogeneous atmosphere, by R. Friedlander. Reflection of electromagnetic waves from slightly rough surfaces, by R. O. Rice. The theory of scattering of radio waves in the troposphere and ionosphere (abstract) by H. G. Enslin. Properties of guided waves (abstract) by R. Adler. Evaluation of integrals associated with wave motion in stratified media and the formation of transients (abstract) by M. Corbin. Electromagnetic research in the U. S. Air Force Research Program, by M. C. Orfanos.

Note: A collection of original papers which reflects the current mathematical approaches to theoretical problems in electromagnetic wave research. Although predominantly theoretical, many of the papers have clear applications in the design of radio antennas and other problems which concern communications engineers.

WHITMER ROBERT MORRHOUSE

Electromagnetica. New York: Prentice-Hall, Inc., 1952 270 p. 22 cm. (Prentice-Hall physics series, Donald H. Menzel, editor) \$6.65 290

Contents: Charge, field, and potential. Relations among electrostatic quantities. Capacitors. Dielectric materials. Electrostatic problems. Direct currents. Magnetic fields. Induced emf's and inductances. Magnetic materials. Alternating currents. General field equations and the wave equations. Plane electromagnetic waves. Guided waves. The Maxwell vectors and circular waveguides. Appendix. References. Index.

Note: A textbook for upper-level college students who are majoring in either physics or electrical engineering. The author has assumed

that the students will have had or be pursuing courses in general circuit theory and in vector analysis. The various topics treated in the chapter titles are treated mainly from the field theory point of view. Comparisons are drawn between electrostatic and magnetic concepts and equations, and the reader is introduced to the pertinent mathematics. Terms such as "conducting material" are defined more precisely than is customary in introductory courses.

TERRESTRIAL ELECTRICITY

CARNEGIE INSTITUTION OF WASHINGTON DEPARTMENT OF TERRESTRIAL MAGNETISM

Earth-current results at Tucson Magnetic Observatory 1932-1942 by W. J. Rooney. Washington D. C.: Carnegie Institution of Washington 1949 309 p. illus. 28 cm. (Carnegie Institution of Washington Publication 175. Researches of the Department of Terrestrial Magnetism. Vol. ix) 291

Contents: Details of site and apparatus. Reflection of records. Diagrams of smaller General considerations. The solar diurnal variation. Relations to solar activity. Seasonal changes. Comparison with magnetic records. Variables with periods longer than one day. Lower diurnal variations. Literature cited. Tables 1-111.

Note: The greater part of this volume consists of a series of tables in which are given the hourly mean values of earth current potentials arranged by month for the years indicated. Apparatus used and methods of calculating the potentials are described in the introductory chapters. The data were assembled as a joint product of the United States Coast and Geodetic Survey and the Bell Telephone Company.

LIDIG, P. G., AND OTHERS

Magnetic results from Huancayo Observatory Peru. Department of Terrestrial Magnetism. Carnegie Institution of Washington January 1945-June 1947 Instituto Geofísico de Huancayo July-December 1947 By P. G. Lidig, A. A. Giesecke, Jr., W. C. Parkinson, W. E. Scott, and Ella Balsam. Washington D. C.: Carnegie Institution of Washington 1951 127 p. illus. 28 cm. (Carnegie Institution of Washington. Publication 175. Researches of the Department of Terrestrial Magnetism. Vol. x-C) Paper \$0.75 cloth \$1.50 292

Contents: Explanatory text; Introduction. Description of instruments. Constants of the magnetographs. Absolute observations and variations. Hourly mean values. Daily hourly means and associated means. Summary of monthly means. Summary of annual means. Magnetic disturbances and sudden commutations. Literature cited. Tables. Observatory staff from 1945 to 1947. Monthly means and range in temperatures. Earthquake magnetograph. Summary of adopted values of Z scale-value determinations with Helmholtz coil, 1945 to 1947. Observed hour-line values for the D variometer and respective adopted values. Airplot changes in the adopted D hour-line values. Observed hour-line values at 15°C for the H variometer and respective adopted values. Airplot changes in the adopted H hour-line values. Observed hour-line values at 15°C for the Z variometer and respective adopted values. Summary of monthly means for 1945 to 1947. Summary of annual means for 1945 to 1947. Magnetic disturbances and sudden commutations, 1945 to 1947. Hourly mean values of declination, horizontal intensity and vertical intensity 1945 to 1947.

Note: (234*) This publication presents magnetic data obtained at the Huancayo Magnetic Observatory during the years 1945, 1946, and 1947 in continuation of the data presented in Parts A and B of Volume of Carnegie Institution of Washington Publication 175, "Researches of the Department of Terrestrial Magnetism. Like its two predecessors, Part C is in tabular form with an explanatory text. The Huancayo Observatory was transferred by gift from the Carnegie Institution of Washington to the Peruvian government on July 1, 1947 hence this volume marks the conclusion of the pub-

Rescue program of the Carnegie Institution of Washington with respect to the Hecate Magnetic Observatory. By agreement the volume also includes the records of data collected at the Observatory during the first six months of operation under Peruvian auspices.

PARKINSON, W. C., AND OTHERS

Magnetic results from Watheroo Observatory Western Australia. Department of Terrestrial Magnetism Carnegie Institution of Washington, January 1945-June 1947 Australian Commonwealth Bureau of Geology Geophysics and Mineral Resources, July-December 1947 Compiled edited and interpreted by W. C. Parkinson F. W. Wood W. E. Scott, and Ella Balsam. Washington, D. C. Carnegie Institution of Washington, 1951 127 p. illus. 28 cm. (Carnegie Institution of Washington Publication 175 Researches of the Department of Terrestrial Magnetism. Vol. VII-C) Paper \$0.75 293

Contents: Explanatory text. Introduction. Description of instruments. Contents of the magnetographs. Absolute observations and vectorizer base-line values. Hourly base values and associated errors. Summary of monthly means. Summary of annual means. Magnetic disturbances and sudden commencement literature cited. Tables: Observatory staff from 1943 to 1947. Monthly means and range in temperature, barometric magnetograph. Observed H scale values. 1. and adopted values of A. Summary of daily 2 scale-value determinations with Healdsburg coil, 1945-1947. Observed base-line values for the D vectorizer and respective adopted values. Abrupt changes in the adopted D base-line values. Observed base-line values at 20°C for the H vectorizer, and respective adopted values. Abrupt changes in the adopted H base-line values. Observed base-line values at 20°C for the Z vectorizer and respective adopted values. Abrupt changes in the adopted Z base-line values. Summary of monthly means for 1945 to 1947. Summary of annual means for 1945 to 1947. Magnetic disturbances and sudden commencement, 1945 to 1947. Hourly mean values of declination, horizontal intensity and vertical intensity 1945 to 1947.

Note. (2155*) This publication presents data obtained at the Watheroo Magnetic Observatory during the years 1943, 1944, and 1947 in continuation of the data presented in parts A and B of Volume VII of Carnegie Institution of Washington Publication 175. Like its two predecessors, Part C is in tabular form with an explanatory text. As the Watheroo Magnetic Observatory was transferred by gift from the Carnegie Institution of Washington to the Australian Commonwealth Government on July 1, 1947 this volume marks the completion of the publication program of the Carnegie Institution of Washington with respect to the Watheroo Magnetic Observatory. By agreement the volume also includes the records of data collected at the Observatory during the first six months of operation under Australian auspices.

X-RAYS AND OTHER RADIATION

KOLLER, LEWIS RICHARD

Ultraviolet radiation. New York: John Wiley & Sons, Inc., 1952. 270 p. illus. 24 cm. \$6.50 294

Contents: Introduction. Area. Incandescent sources of radiation. Solar radiation. Transmission. Reflection. Some applications and effects of ultraviolet. Detectors of ultraviolet radiation. Index.

Note. A general survey in which is incorporated a wide range of scientific and technical data. It is addressed primarily to persons who have some familiarity with technical terminology such as physicists, chemists, engineers, biologists, and some laymen. In the chapter on applications such uses of ultraviolet radiation as tanning of the skin, prevention of rickets, destruction of bacteria in air and water, and the production of fluorescence are discussed. The descriptions of lamps and other devices for producing ultraviolet radiation are limited to types rather than to particular equipment now being manufactured. Selected short lists of literature references are included. The author is a member of the staff of the General Electric Research Laboratory.

WEYL, CHARLES AND S. REID WARREN, JR.

Radiologic physics. Second edition. With a foreword by Eugene P. Pendergrass. Springfield, Ill.: Charles C. Thomas, 1951. 491 p. illus. 24 cm. \$11.25 295

Contents: Part I. Scientific method, electromagnetism and electromagnetic devices. Decreases of scientific method. The experimental basis of electromagnetism; tentative atomic theories for explaining the observed phenomena. The quantitative analysis of electric circuits. Electrical measuring instruments. Transformers, induction, and mutual electric power distributing systems. Principles of electronics. Electronic devices. High-voltage generation for X-ray equipment. Part 2. Radiant energy and its interactions with matter: The theory of radiant energy—a historical survey. X-rays and positrons. Radioactivity and nuclear physics. The measurement and control of X-rays and radioactive emissions. Physical aspects of therapeutics and tracing techniques; equivalent dose for X-rays and radioactive emissions; protection. Physical aspects of fluoroscopic and roentgenographic techniques. The effects of variations of exposure factors on roentgenographic results. Fluoroscopic and roentgenographic techniques. Appendix. Mathematical tables. Name index. Subject index.

Note. (490) A standard text on general physics and on those aspects of physics which apply particularly to X-rays and other radiation used in medical diagnosis and therapy. It is used primarily as text in graduate courses offered to physicians who are preparing to specialize in radiology. Although more rather advanced matter is taken up in the latter parts of the book, the authors have so arranged that their readers will have foundations in either mathematics or physics. The first edition was published in 1941. Changes and revisions made in preparing this edition include an expansion of the discussion of electronic phenomena and devices, of artificial radioactivity and of the uses of radioactive isotopes. Recent literature has been added to the chapter bibliographies.

METEOROLOGY

AMERICAN METEOROLOGICAL SOCIETY

Compendium of meteorology Prepared under the direction of the Committee on the Compendium of Meteorology H. G. Houghton chairman. Edited by Thomas F. Malone. Boston, Massachusetts American Meteorological Society 1951 1334 p. Illus. 29 cm. \$12.00. 296

Contents: Composition of the atmosphere: The composition of the atmospheric air by E. Gieseler. Radiation: Solar constant and its modification by the earth and its atmosphere, by S. Pallis. Long-wave radiation, by F. Miller. Actinometric measurements, by A. Angström. Meteorological optics: General meteorological optics, by H. Neuberger. Polarization of skylight, by Z. Sekera. Visibility in meteorology, by W. K. K. Middlemiss. Atmospheric electricity: Universal aspects of atmospheric electricity, by O. H. Gish. Ions in the atmosphere, by G. R. Wall and W. D. Partridge. Precipitation electricity, by A. Goss. The lightning discharge, by J. H. Hagengrath. Instruments and methods for the measurement of atmospheric electricity, by H. Ince. Radioactivity of the atmosphere, by H. Ince. Cloud physics: On the physics of clouds and precipitation, by H. G. Houghton. Nuclei of atmospheric condensation, by C. Jones. The physics of ice clouds and mixed clouds, by P. H. Ludlam. Thermodynamics of clouds, by F. Miller. The formation of ice crystals, by U. Nakaya. Snow and its relationship to experimental meteorology, by V. J. Schaefer. Radiation of terrestrial clouds, by H. G. Houghton. General aspects of upper atmospheric physics, by S. E. Mifflin. Thermodynamic processes in the upper atmosphere and coefficient comparison, by S. Chapman. Ozone in the atmosphere, by F. W. P. Gray. Radiative temperature changes in the ozone layer, by R. A. Cole. Temperature and pressure in the upper atmosphere, by H. R. Merrill. *Water vapor in the upper air*, by G. M. R. Dobson and A. W. Stewart. *Dufourin in the upper atmosphere*, by H. Lettau. The ionosphere, by R. L. Focke. Night & twilight (from the upper atmosphere), by E. Q. Hubbard. Auroras and magnetic storms, by L. Hecceg. Meteors as probes of the upper atmosphere, by F. L. Whipple. Sound propagation in the atmosphere, by R. Ostertag. Chemical meteorology: Solar energy variations as possible cause of anomalous weather changes, by R. A. Cole and H. C. Willett. The atmosphere of the other planets, by S. L. Hest and H. A. Francis. Dynamics of the atmosphere: The particulate equilibrium in meteorology, by R. Hest. The relation of small-scale meteorological problems by the method of characteristics, by J. C. Frouin. Hydrodynamic instability, by J. M. Van Milligen. Stability properties of large-scale atmospheric disturbances, by R. Fiedler. The quantitative theory of cyclone development, by E. T. Ledy. Dynamics forecasting by numerical means, by J. G. Charney. Energy equilibria, by J. E. Miller. Atmospheric turbulence and diffusion, by G. G. Serbin. Atmospheric tides and oscillations, by S. Chapman. Application of the thermodynamics of open systems to meteorology, by J. M. Van Milligen. The general circulation: The physical basis for the general circulation, by V. P. Starr. Observational studies of general circulation patterns, by J. C. Charney and F. W. Chapp. Applications of energy principles to the general circulation, by V. P. Starr. Mechanics of pressure systems: Extratropical cyclones, by J. M. Van Milligen. The survey of extratropical disturbances, by E. Fiedler. Anticyclones, by H. Wacher. Mechanisms of pressure changes, by J. M. Van Milligen. Large-scale vertical velocity and divergence, by H. A. Panofsky. The instability wave, by J. E. Fiedler. Local circulations: Local winds, by P. Defant. Tornadoes and related phenomena, by E. M. Riecke. Thunderstorms, by H. R. Byers. Cumulus convection and entrainment, by J. M. Van Milligen. Observations and analysis: World weather network, by A. F. Kephart. Models and techniques of synoptic representations, by J. C. Charney. Meteorological analysis in the middle latitudes, by V. J. Oerter and M. R. Oerter. Weather forecasting: The forecast problem, by H. C. Willett. Short-range weather forecasting, by G. K. Dunas. A procedure of short-range weather forecasting, by R. C. Benedict. Objective weather forecasting, by R. A. Allen and E. M. Venzon. General aspects of extended-range forecasting, by J. Neuman. Extended-range weather forecasting, by F. Brier. Extended-range forecasting by weather types, by R. D.

Edlitt. Verification of weather forecasts, by G. W. Brier and R. A. Allen. Application of statistical methods to weather forecasting, by G. P. Woburn. Tropical meteorology: Tropical meteorology, by C. E. Palmer. Equatorial meteorology, by A. Ormiston. Tropical cyclones, by G. K. Dunas. Aerology of tropical storms, by H. Riecke. Polar meteorology: Antarctic atmospheric circulation, by A. Covert. Arctic meteorology, by H. D. Denny. *Some climatological problems of the arctic and sub-arctic*, by F. K. Hara. *Chemistry: Climate—the synthesis of weather*, by C. S. Davis. Applied climatology, by H. E. Landsberg and W. C. Jacos. Microclimatology, by G. G. Serbin. Geological and historical aspects of climatic change, by C. E. F. Brooks. Climatic implications of glacial research, by R. F. Flint. Tree-ring indices of rainfall, temperature, and river flow, by E. Schmalzer. Hydrometeorology: Hydrometeorology in the United States, by R. D. Fletcher. The hydrologic cycle and its relation to meteorology—over forecasting, by R. E. Linsley. Marine meteorology: Large-scale aspects of energy transformation over the ocean, by W. C. Jacos. Ecosystems from the ocean, by H. U. Sverdrup. Forecasting ocean waves, by W. H. Munk and R. S. Arthur. Ocean waves as meteorological tool, by W. H. Munk. Biological and chemical meteorology: Aerobiology, by W. C. Jacos. Physical aspects of human bioclimatology, by J. K. E. Swenson. Some problems of atmospheric chemistry, by H. Cross. Atmospheric pollution: Atmospheric pollution, by E. W. Hewson. Clouds, fog, and aerosol icing: The classification of cloud forms, by W. E. Howard. The use of clouds in forecasting, by C. F. Brooks. Fog, by J. J. Omer. Physical and operational aspects of aerosol icing, by L. A. Riecke. Meteorological aspects of aerosol icing, by W. Lewis. Meteorological instruments: Instruments and techniques for meteorological measurements, by M. Venzon. *An aircraft meteorological instrument*, by A. C. Bessie. Laboratory instrumentation: Experimental analogies to atmospheric behavior, by D. Feltz. Model techniques in meteorological research, by H. Rosen. Experimental cloud formation, by Sir D. Brunt. Radiometeorology: Radar storm observation, by M. G. H. Light. Theory and observation of radar storm detection, by R. Wacher. Meteorological aspects of propagation problems, by H. G. Riecke. Statics, by R. C. Wenzon. Microclimate: Observations and theory of microclimate, by R. Ostertag. Practical applications of microclimate to forecasting, by J. A. Macdonald. *Index*

Notes: A comprehensive statement and survey of the current state of meteorological knowledge. The papers were written, especially for it and the authors, who are recognized specialists, were drawn from several sources (including the U. S. A. A. typical paper contains about 14,000 words) and is supplemented by a long bibliography of the pertinent literature. The work is of interest to meteorologists and to physicists interested in such branches of meteorology as atmospheric electricity and the properties of the upper atmosphere.

CARTER, J. H., AND OTHERS

On atmospheric pollution a group of contributions. Boston Mass. The American Meteorological Society 1951 35 p. Illus. 28 cm. (American Meteorological Society Meteorological monographs. Vol. 1, no 4 November 1951) Paper \$4.50. 297

Contents: Some aspects of the air pollution problem: *panel discussion: Reinforcement principles and standards*, by J. H. Carter. *Meteorology applied to air pollution*, by C. A. Gosselin. *Meteorological influences and their application to control of the source*, by E. W. Hewson. *Chemistry and its part in pollution*, by H. Landsberg. *Diffusion of stack gases in very stable atmosphere*, by M. L. Bessie. *The statistical theory of diffusion by turbulent eddies*, by G. W. Brier. *Instruments for air pollution measurement*, by W. L. C. Bennett. *Microclimate factors in smoke pollution from tall stacks*, by F. H. Lewis. *Ground level measurements of oil spill weathered from a hundred meter chimney*, by F. H. Lewis and others. *Gasoline pollution in the lower layers of the atmosphere*, by H. F. Pappas. *Airborne studies of diffusion in urban areas*, by H. Kohn. *Analyzing wind for frequency and direction*, by R. H. Shurlock. *The forecasting of micro-meteorological variables*, by M. K. Koshi.

Notes: In this booklet various aspects of the problems of atmospheric pollution are discussed by meteorologists. Most of the papers

describe the results of recent, original investigations. All but one of the papers were presented at a symposium on atmospheric pollution held during the 50th meeting of the American Meteorological Society at St. Louis in January 1950.

CONRAD, VICTOR AND L. W. POLLAK

Methods in climatology. Second edition revised and enlarged including some methods in general geophysics. Cambridge, Mass. Harvard University Press 1950 459 p. 24 cm. \$7.50 298

Contents: (abridged) Part 1. Methods in climatology. General remarks. Statistical analysis of climatic elements. Aids to computation. Some problems of curve fitting, and smoothing of numerical series. Harmonic analysis. Characteristics of some selected climatic elements. Spatial comparison of climatic elements. Essential elements of the climatology. Part 2. Computing devices, periodography. Computation with mechanical and electrical devices. Periodography. Hidden periodicities. Test of significance. Determination of periods with the aid of superposition. Appendixes. Index.

Note. (768) A valuable presentation in which are described climatological rather than geographical methods of combining observational data and constructing therefrom quantitative descriptions of climate. It is designed to facilitate the step from qualitative to quantitative methods for college students of climatology and of related fields such as geography and agriculture. The methods described are based on mathematical and statistical analysis; hence the readers need working knowledge of these disciplines. Part 2 was added in this edition, and there are other important revisions and augmentations.

CRAIG RICHARD A.

The observations and photochemistry of atmospheric ozone and their meteorological significance. Boston Mass. The American Meteorological Society 1950 50 p. illus. 28 cm. (American Meteorological Society Meteorological monographs Vol. 1 no. 2 Sept. 1950) Paper \$2.50 299

Contents: Introduction. Ozone observations. The photochemistry of atmospheric ozone. A discussion of the observed characteristics of atmospheric ozone. Summary and conclusions. References. Appendixes. Observed vertical amounts and vertical distributions of ozone. Details of photochemical calculations.

Note. A survey of the present state of knowledge of atmospheric ozone. The historical development of this knowledge and the reported results and observations are presented in readable, well-organized form. The bibliography although not comprehensive is substantial.

DONN WILLIAM L.

Meteorology with marine applications. Second edition New York McGraw Hill Book Company Inc. 1951 465 p. illus. 24 cm. \$6.25 300

Contents: (abridged) Wind and temperature of the air Humidity Atmospheric equilibrium Condensation and precipitation Clouds and thunderstorms Atmospheric pressure Winds—observation and theory Primary or terrestrial wind circulation. Weather analysis and interpretation Optical features of the atmosphere. The seasons. Bibliography Appendixes: Teletype message code Tables of average weather summaries for principal ports and islands Index.

Note. (761) A general introduction to meteorology class specifically at seamen and others with practical interest in the weather at sea. It is well written and illustrated and, though somewhat technical in style it is not difficult to read. The most obvious change in the present edition is complete revision of the chapter on weather coding and signaling, to make it conform to the International Weather Code, which went into effect on January 1, 1949.

LEOPOLD L. B. AND OTHERS

On the rainfall of Hawaii a group of contributions. Boston Mass. The American Meteorological Society 1951 55 p. illus. 28 cm.

(American Meteorological Society Meteorological monographs. Volume 1, no. 3 June, 1951) Paper \$2.50 301

Contents: Foreword, by E. C. Acker. Introduction. Hawaiian climate, its relation to human and plant geography by L. B. Leopold. Statistical investigations into the climatology of rainfall on Oahu (T.H.) by H. Lundberg. The geographic distribution of average monthly rainfall, Hawaii, by C. K. Ridd and L. B. Leopold. A study of rainfall over Oahu, by T. C. Yeh and others. On the relation between the circumpolar westerly current and rainfall over the Hawaiian Islands, by T. C. Yeh and others.

Note: Original papers written as part of a meteorology research program organized to explore "the feasibility of obtaining useful, practical weather forecasts for Hawaii, particularly long-range forecasts, are printed in this booklet. The research program, sponsored by The Philippine Research Institute of Hawaii and set up under the guidance of O. G. Kneib, is an illustration of meteorological research applied to a particular region and designed to delineate the factors which are important as long-range weather forecasting for the region.

NEUBERGER, HANS

Introduction to physical meteorology State College, Pa. Pennsylvania State College, 1951 271 p. illus. 24 cm. \$3.50 302

Contents: Condensation processes in the atmosphere. Visibility in meteorology. Solar and terrestrial radiation. Meteorological agencies. Meteorological optics. Atmospheric electricity. Appendix. General references. Index.

Note: An introduction to the physical processes of the atmosphere written for college students and others. Its purpose is basic understanding of college physics and algebra. Only three classes of phenomena treated in the chapter titles are covered, and there is no discussion of thermodynamics. On the other hand, clear statements are given of the current knowledge of such phenomena as condensation nuclei. The chapters contain references lists in which statements in the text are keyed. There are 100 figures and approximately 70 tables. The author is Professor of Meteorology in the Pennsylvania State College.

PERRIE, D. W.

Cloud physics. New York John Wiley & Sons Inc. 1950 119 p. illus. 27 cm. \$4.50. 303

Contents: Forces and classification. Material of the clouds. Processes of cloud formation. Nuclei of condensation and rainmaking. Natural precipitation. Induced precipitation. The phenomena of clouds. Clouds in relation to forecasting. Clouds in relation to synoptic-scale phenomena. Optical and electrical phenomena associated with clouds. Appendix. Charts of cloud characteristics. Glossary. Bibliography. Indexes.

Note. A general, semi-technical survey of the varieties of clouds, the physics of cloud formation, rainfall and other precipitation, the importance to aviation of knowledge of cloud types, etc. The descriptions and discussions of cloud phenomena are carefully related to basic meteorologic knowledge. The charts in the appendix are useful tabulations of the characteristics of the different kinds of clouds.

RIEHL, HERBERT, AND OTHERS

Forecasting in middle latitudes. By Herbert Riehl and J. Badner J. E. Hovde N. E. La Seur L. L. Means W. C. Palmer M. J. Schroeder L. W. Snellman and others. With a foreword by Francis W. Reichelderfer Boston, Mass. The American Meteorological Society 1952 80 p. illus. 28 cm. (American Meteorological Society Meteorological monographs. Vol. 1, no. 5 June, 1952) Paper, \$3.50 304

Contents: Introduction. The upper-air prognostic chart. The surface synoptic chart. Field examples, 1-4 November 1950 (stage VIII) Appendixes: Calculations and representations of the mean wind profile. Preparation of the isothermy chart. Large wave calculations. Calculation of the dynamic stability in ridges. Computations of the 24-hr 500-mb prognostic. Jet stream analysis. Computations of the

24-hr jet stream prognostic. Computation of the vorticity field aloft. Relations between changes of surface pressure and changes of vorticity aloft. Trajectory method of displacement. References.

Note. The mechanics and computations of contemporary weather forecasting for short periods such as 48 hours are illustrated in this work. The method chiefly considered is the construction of prognostic charts "on the basis of experience, empirical rules, and some kinematic and dynamic computations." The forecaster is shown first how to draw an upper-air prognostic chart, then how to use this and other information in drawing a 48-hr surface prognostic chart. The booklet is based on a course sponsored by the University of Chicago and conducted at the Chicago Weather Bureau Forecast Center since 1950. It is written as the technical terminology of the field and is addressed both to advanced college students and to graduate meteorologists. A particularly valuable feature is the inclusion of specific steps in the programs to permit basing on them in the modern literature.

TANNKILL, IVAN RAY

Hurricanes their nature and history particularly those of the West Indies and the southern coasts of the United States. Eighth edition. Princeton Princeton University Press, 1952 308 p. illus. 22 cm. \$4.00.

Contents: Introduction—tropical cyclones. Winds of the hurricane. The storm surge. Origin of West Indian hurricanes. Hurricane tracks. Related to tropical cyclones. Barometric pressure. Signs of the approaching hurricane. Usual hurricane movements. Frequency of West Indian hurricanes. Destructive effects of hurricanes. Prognostic measures. Early history of West Indian hurricanes. Menorable hurricanes of the nineteenth century. Chronological account of hurricanes of the twentieth century. Chronological list of hurricanes, 1944 to 1950. Appendix: Observing and forecasting hurricanes. Bibliography. Index.

Note. (126*) The standard work of information about the meteorology and records of hurricanes. The style is semi-technical and the book appeals both to general readers and to professional meteorologists. Much reference information on particular hurricanes is included. The seventh edition was published in 1950. In this one the only changes are the addition of the appendix which contains both descriptions of the use of radar and other developed techniques in the forecasting of hurricanes and a revised account of the hurricanes of 1945-1951.

TANNKILL, IVAN RAY

Weather around the world Second edition. Princeton Princeton University Press, 1952 212 p. illus. 20 cm. \$2.50

Contents: Wind and waves. Clouds. Prevailing winds, barometers and the law of storms. Ocean currents, temperature and clouds. Heat and humidity. Cloudiness, rain, snow and fog. Special phenomena over the oceans. Europe West Indies and South America. The Mediterranean and the Middle East. Africa. Asia. Australia and the Pacific Islands North America. The weather aloft. Appendix: Weather records around the world. A. Weather records for 110 cities. B. Supplementary weather records for 78 places. C. Wind and weather for some countries. Index.

Note: (147) A handy readable book addressed to travelers and other laymen. It is useful also as a weather reference book in personal libraries. The first seven chapters deal with weather phenomena in general and include both natural facts such as the height of the tallest waves and information about man-made matters such as varieties of clouds. The remainder of the book (except for the final chapter) devoted to the weather of particular regions of the world. The first edition was published in 1945. The main change in the present edition is the addition of the final chapter on the weather and travel by air.

UNITED STATES TECHNICAL CONFERENCE ON AIR POLLUTION

Air pollution Sponsored by the Interdepartmental Committee on Air Pollution, Louis C

McCabe chairman New York McGraw Hill Book Company Inc., 1952 847 p. illus. 26 cm. \$12.50

307

Contents (abridged): Part I. Agriculture panel: Air pollution in relation to agriculture, by V. W. Johnson. Some inquiries in the air and their effects on plants, by M. D. Thomas and others. Similarities between disease symptoms and chemically induced injury to plants, by L. M. Mearns. The effects of air borne fluorides on vegetation, by E. J. Lacey. Some effects of fluorine (smoke on vegetation), by R. W. Griffin and R. B. Boyles. Fluorine in bronchitis, by F. H. Phillips. Part II. Analytical methods and properties panel: The spectrum of particle size and its relation to air pollution, by H. F. Munn. Physical properties of aerosols, by D. Elstner. Chemical analysis of air pollutants, by A. J. Hagen-Smith. Method for identifying and estimating gases and vapors in air pollution, by M. Shepherd. Spectrographic analysis in air pollution studies, by R. F. Brinkman. Part III. Equipment panel: Color control practices, by W. H. Whitehead. Vacuum impregnation filters, by J. W. May. Spray towers, bubble towers, and packed towers using reactive and non-reactive liquids, by J. L. York. Condensation techniques for dust detection and collection, by J. L. York and A. Brubaker. Role of activated carbon in practical control of atmospheric contamination, by A. B. Ray. Theory and basic principles of the stack gas flowmeter, by H. W. L. Clark. The place of tall stacks in air pollution control, by G. R. Hill. Design and use of mechanical hooded industrial gas burning equipment, by J. R. Gentry. Abatement of dust from power plant stacks, by G. Criss. Part IV. Health panel: Side effects of air pollution, by M. B. Seldinger. Effects of prolonged exposure to air pollutants, by R. A. Kohn. Effects of heating reduction in air pollution, by A. Wolstein. Effect of loss of sunlight on human health, by H. F. Kohn. Respiratory tract allergic effects from chemical air pollution, by F. W. Wadsworth. Part V. Instrumentation panel: Atmospheric sampling by electronic precipitation, by E. C. Barnes. Direct photography of aerosol suspensions, by A. L. Cheney. The preparation, collection, and measurement of aerosols, by V. K. LaMer. New developments in instrumentation for air pollution studies, by C. Brummett and others. A recording visibility meter by A. L. Cheney. Part VI. Legislation panel: Problems in the drafting and administration of air pollution control legislation, by A. C. Brown. The legal aspects of the California air pollution control act, by R. W. Kesteven. The R. L. Smith code and its operation, by R. R. Tucker. Part VII. Microbiology panel: Microbiological aspects of atmospheric pollution, by E. W. Rye. The problem of deposition of hot gases in the atmosphere, by G. G. Brown. The diffusion problem in city centers, by J. L. Holland. The application of meteorological control in atmospheric pollution problems, by M. E. Smith. Index.

Note. This volume contains the papers presented at a conference that was organized and sponsored by several departments of the United States National Government. However the speakers included representatives of industrial corporations as well as governmental units. Altogether, there are 97 papers in the book and these are supplemented by references and transcripts of discussions. There is considerable repetition of thought among the various papers, and the book is far from homogeneous. However, it does contain a wide and varied array of information on most aspects of the current air pollution problem. Most of the papers are devoted to problems and methods in the United States of America. However, there are several British contributors and their papers outline current British act and research in the field. The index fails to do justice to the contents of the book.

VARTH, JOSEPH GORDON

200 miles up the conquest of the upper air New York Ronald Press Company 1951 207 p. illus. 24 cm. \$4.50

308
Contents: The upper atmosphere: frontier of scientific exploration. The atmosphere seen. Upper air research instruments. Vehicles for upper air research. Project Skyhook: upper air research by balloons. The White Sands Proving Ground. Principles of rocket flight. The W-3: investigator of modern high altitude rocketry. How V-2 is fired. The high-speed Aerobics. The Viking, latest upper air research vehicle. Index of subjects. Index of names.

Note: Although there is much in this book about rockets, the main theme is not rockets but the scientific exploration of the atmosphere and therefore that rockets and high altitude balloons have made possible. The book is for general readers. Some excellent pictures of rockets and "skyhook" balloons are included.

CHEMISTRY

DICTIONARIES AND HANDBOOKS

THE CONDENSED CHEMICAL DICTIONARY a reference volume for all requiring quick access to essential data regarding chemicals and other substances used in manufacturing and research and to terms in general use in chemistry and the process industries. Francis M. Turner, editorial director Fourth edition, completely revised and enlarged by Arthur and Elizabeth Rose. New York Reinhold Publishing Corporation, 1950 721 p. 23 cm. \$12.00 309

Note: (807) The term "dictionary" falls short of an appropriate description of this reference book. Actually it is condensed encyclopedia which is especially useful for its descriptions of commercial chemicals and trade-marked products. Each are accorded as to general characteristics, chemical composition, properties, uses, forms, standard shipping containers, and shipping regulations. It says in addition, general chemical terms, such as "distillation," are defined. By following key-number to source list in the front of the book the name of U.S.A. manufacturer of trade-marked chemical can be found. According to the publisher's statement, 5,000 new items have been added to this item. Most of the added entries appear to relate to new products marketed under trademarks, but new generic terms, such as "anti-biotic," and the new term in radiochemistry also are included.

HAYNES WILLIAMS

Chemical trade names and commercial synonyms a dictionary of American usage. New York D Van Nostrand Company, Inc. 1951 279 p. 24 cm. \$5.50 310

Note: A reference book which contains an alphabetical listing of more than 30,000 trade names and commercial synonyms for products of chemical nature which were being offered for sale to industrial users in the United States of America in early 1950. The definitions characterize the product in chemical terminology, name one or more uses, and identify the manufacturer. A typical entry follows: "Gessavac 101 (Gen. Chem.) dibenzochloroacetyl methide; octagonal and several properties."

LANGE NORBERT ADOLPH compiler

Handbook of chemistry a reference volume for all requiring ready access to chemical and physical data used in laboratory work and manufacturing Compiled and edited by Norbert Adolph Lange, assisted by Gordon M. Forker Eighth edition Sandusky Ohio Handbook Publishers Inc. 1952 1998 p. illus 20 cm. \$7.00 311

Note: (775) One of the standard American reference books for chemical laboratories and the offices of chemists and physicists. It contains data—much of it tabulated—on such topics as atomic weights and numbers, physical constants of the elements and of compounds, some temperatures, the composition of commercial metal alloys, the properties of materials of construction, indices of refraction of various substances, thermal properties, etc. The seventh edition appeared in 1949 and it was the first from which the appendix or second part entitled "Mathematical tables & formulas," which appeared in previous editions, was omitted. The matter which formerly appeared in this part is now published separately by this same publisher. In comparison to the seventh edition the present

one is 78 pages longer. 26 tables have been revised and expanded, and material has been added on six topics not represented in preceding editions.

PATTERSON, AUSTIN McDOWELL

A German English dictionary for chemists. Third edition. New York John Wiley & Sons, Inc. 1950 541 p. 18 cm. \$5.50 312

Note: (811) In the present edition, substantial number of terms have been added to the standard reference book, and some new meanings have been added for terms which were included in previous editions. As in earlier editions, the work is dictionary for chemists rather than of chemistry. Chemical terms constitute the bulk, but numerous terms from the general language, such as "recipe" and "toll" which might be encountered in reading chemical articles, are included. Also, there are many terms from sciences that border on chemistry.

HISTORY

CHYMIA ANNUAL STUDIES IN THE HISTORY OF CHEMISTRY Volume 2 Tenney L. Davis, editor-in-chief Philadelphia University of Pennsylvania Press 1949 143 p. illus. 24 cm. \$4.00 313

Contents: The beginnings of laboratory instruction in chemistry in the U. S. A., by H. S. van Kleeft. An Irish-American chemist, William James MacDermott, 1743-1841, by D. R. Kelly. Was Newton an alchemist? by R. J. Forbes. Brönstedt als Historiker chemischen Fortschritts, by R. Wiedersich. Die Chemie als Wissenschaft der epistemischen in Chemie, by P. Lowry. History of alchemy in India between about A. D. 700 and 1000, by P. K. Gode. Some personal qualities of Wilhelm Ostwald recalled by former student, by Edmund P. Hilpert. The experimental origin of chemical stoichiometry and molecular theory before Boyle, by R. H. Noyes. Die chemische Laboratorium der Bayerischen Akademie der Wissenschaften in München, by W. Prandl. Paracelsus, by T. L. Davis. Some seventeenth century chemical and alchemical of Lavoisier, by D. L. Doremus and A. Wilmart. Der Kanton Dagly al-chemie, scholar courier and man of adventure, by W. Miller. Index of names. Entries continued.

— Volume 3 Henry M. Leicester, editor-in-chief Philadelphia University of Pennsylvania Press 1950 250 p. illus. 24 cm. \$4.50. 314

Contents: Tenney Lombard Davis and the history of chemistry, by H. M. Leicester and H. R. Kitchin. The beginning of chemical instruction in America—a brief account of the teaching of chemistry at Harvard prior to 1800, by J. R. Cohen. Les appareils d'expérimentation de Lavoisier, by M. Doreau. Re-active substances in the nineteenth century, by E. Forster. La chimie en son "théâtre d'opéra" de Orléans, by C. E. Fritsch and A. G. Valente. Early American chemical scientists. I. The 1828 Chemical Society of Philadelphia, by W. Miller. The phlo. 2. The Chemical Society of Philadelphia, by W. Miller. The invention of gelatin and the diffusion of alchemical and chemical knowledge, by R. Harck. Wandlungen in der geschichtlichen Betrachtung der Alchemie, by W. Gessner. Boyle and Boyle—the scriptural chemist and the scriptural alchemist, by G. Barrow. Karl Friedrich Mohr, 1804-1877—"Father of volumetric analysis," by J. M. Scott. Henri Buato-Chenon Deville, 1818-1881, by R. L. Oesper and P. Lowry. Newton's Vermutung über alchemische Experimentalkemie, by H. Kitchin. The work of Heinrich Krimm—its origin and significance, by C. K. Decker and J. L. Rabenstein.

Note: Original and hitherto unpublished papers on aspects of the history of chemistry make up these yearly volumes. The typical paper is scholarly contribution addressed to other scholars who are interested in the history of chemistry. The history of science or the history of the development of knowledge in general. It is de-

mixed with chapters of the related literature and may be illustrated with portrait reproduction of this page or other appropriate material.

FARBER, EDUARD

The evolution of chemistry a history of its ideas, methods, and materials. New York The Ronald Press Company 1952 349 p. illus. 24 cm. \$6.00. 315

Contents (abridged) Part I. The emergence of chemistry as science: Survey of the period from the oldest records to the eighteenth century. From the fourth millennium B.C. to the third century A.D. From the third century to the sixteenth century. From the beginning of the sixteenth century to the third quarter of the eighteenth century. Alchemy and alchemical art. Alchemy, pharmacy, and manufacturing plants. Part II. The development of chemical systems: Survey of the period from the late sixteenth century to the late nineteenth century. Principles and elements. Cohesion and valence. Atoms and molecules. Formulations of organic chemistry. The periodic system. The course of chemical change. Part III. Specialization and industrialization. Survey of the period from the latter part of the nineteenth century to our own time. Matter and radiation. Chemical bond and physical form. Inorganic chemistry. Organic chemistry. Biochemistry. List of periodic table. Index of authors. Index of subjects.

Note: The whole of chemical history is covered in this rather short book. The author has necessarily used compressed style and has had to cover great developments in a few lines. His pages are sprinkled with dates and questions which consequently the book is not likely to attract many students who are looking for an easily read narrative account. However, since the subjects are all mentioned together with references to source articles and books, and the book is fully indexed, it is useful for elementary reference.

LEICESTER, HENRY MARSHALL AND HERBERT S. KLIKSTEIN

A source book in chemistry 1400-1900 New York McGraw Hill Book Company Inc., 1952 554 p. 24 cm. (Source books in the history of the sciences Gregory D. Walcott, general editor) \$7.50 316

Note: An anthology of well-edited writings that bear on the development and history of modern chemistry. Although selections from 52 authors ranging in time from Al-Biruni (1000-1050) to Marie Curie (1867-1934) are included, in most instances an author is represented by a single paper which may be complete in itself, but is more often an excerpt from a longer work. Great chemists, but business leaders are equally represented by several selections. The words of each author are preceded by short notes on his contributions to chemistry and at the end of the book there is a bibliography of biographies in both books and periodicals.

GENERAL

AMERICAN CHEMICAL SOCIETY

Searching the chemical literature a collection of the papers presented at the Symposium on Searching the Chemical Literature held by the Division of Chemical Literature of the American Chemical Society at the 117th national meeting in Detroit, April 16 to 21 1950. Also included are four revised papers from the Symposium on the Preparation of Literature and Patent Surveys held by the Division of Chemical Education at the 111th national meeting in Atlantic City April 14 to 18 1947 Washington D. C. American Chemical Society 1951 184 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of In-

dustrial and engineering chemistry No. four) Paper \$2.00 317

Contents: Introduction, by T. E. R. Soper. The use of chemical abstracts, by E. J. Cline. Influence of intersectoral relations upon comprehensive literature searches, by E. H. Heston. Indexing, happy and unhappy hunting grounds, by J. F. Smith. United States and British index entries, by T. E. R. Soper. Relations of an abstract to its original, by G. M. Dyson. Searching the German chemical literature, by K. F. Spletzer. Searching less familiar periodicals, by M. G. Mallon and R. T. Fowke. Identification of less common forms of abbreviations of chemical journal titles, by T. G. Lober. Theories and illustrations, by E. R. May. Searching medical and chemical literature, by C. R. Adair and F. G. Becker. Exploring United States chemical patent literature, by J. Fletcher. Searching United States government documents, by M. T. Ball and C. R. Flagg. Chemical trade marks, by H. Benesh. Exploring foreign chemical patent literature, by J. Fletcher. Searching the older chemical literature, by G. M. Dyson. Means of access of chemical interest, by L. F. Lehmann. Searching for unpublished data, by M. Alexander. Methods and sources in chemical market research, by J. R. Sileo. Chemical trade literature and its usefulness, by L. V. K. Cheyney. FIAT review of German science, by M. W. Miller. Preparation of literature and patent surveys, by M. P. Dean and G. A. Manafie. Library techniques in searching, by D. F. Kover. Techniques employed in making literature searches for patent department, by T. Hoffmann. Concise notes collecting and classification of data as an aid in preparing surveys, by J. C. Lane and J. Mitchell. Index.

Note: Current problems and methods in chemical literature searching are the main topics in this collection of original papers. Various literature, abstract, and subject lists show they approach specific problems in this field. Literature references are included, and in some instances they are unusually extensive.

BABOR, JOSEPH ALBERT, AND ALEXANDER LEHRMAN

General college chemistry Third edition New York Thomas Y. Crowell Company 1951 800 p. illus. 24 cm. \$5.50 318

Contents (abridged) The general state. The atom-molecule hypothesis. Energy changes in chemical reactions. Chemical equilibria. Atomic structure, electronic characteristics, and valence. Hydrogen. Oxygen. Water and hydrogen peroxide. Water supply and health. The solid state. Solutions. Properties of solutions. Solutions of electrolytes. Ionization. The halogens. Oxidation-reduction. The sulfur family. Compounds of nitrogen. Other elements of the nitrogen family. Silicon. Colloid chemistry. Metals and metallurgy. Iron, cobalt, nickel, and the platinum metals. The alkali metals. The alkaline earth metals. Copper, silver and gold, barium and aluminum. The electrochemical cell. Tin and lead. Nuclear chemistry. Appendix. Index.

Note: (191) A standard introductory textbook which is specifically designed for students interested in chemistry at related sciences and who have completed a high school course in chemistry. The second edition appeared in 1940. This edition represents substantial revision and moderate expansion. Many of the chapter titles are the same but the contents have been revised, better, or new advances numbered the old text out-of-date. As would be expected, the discussion of radioactivity has been rewritten. Many experiments are now written in loose form and many new illustrations have been substituted for old ones. The same authors have written *Introductory college chemistry*, second edition, New York: Thomas Y. Crowell Co., 1950, 817 p. \$4.75, for use by students who have had no previous introduction to chemistry.

BENSON SIDNEY WILLIAM

Chemical calculations an introduction to the use of mathematics in chemistry New York John Wiley & Sons, Inc., 1952 214 p. 23 cm. \$2.95 319

Contents: Measurement. Methods of measuring quantities of matter. Chemical formulas. Chemical reactions. Energy and chemical changes. The properties of gases. The concept of combining power—valence. Measurement of solutions. The physical properties of solutions. Chemical equilibria. Electrical properties of ionic solutions. Simple equilibria in ionic solutions. The kinetics of ionic reactions. Acid-base. Acid-base equilibria in ionic solutions. Oxidation and reduction. Predicting redox reactions. Rates of chemical reactions. Appendix. Index.

Note: A more comprehensive book than the typical introduction to the field. Basic methods of calculation and related chemical concepts and terminology are explained. Numerous examples in which

equations are fully stated and are then solved step-by-step are included. The book is suitable not only for first-year college students, but also for those occasional readers who want to study the subject by themselves. The author is Professor of Chemistry at the University of Southern California.

BRINKLEY STUART ROBERT

Principles of general chemistry Fourth edition. New York The Macmillan Company 1951 703 p illus 24 cm. \$5.50. 320

Contents (abridged) Substances and changes they undergo. Typical reactions. Equations and calculations. Atomic structure. Chemical equilibrium. Solutions. The colloidal state. Completed basic reactions. Hydrolysis. The hydrocarbon. The oxides and hydrides of the metals. Oxidation-reduction. Nitrogen. Sulfur. The phosphorus family. The elements of group IV. The production of metals from ores. The transition elements. Salts. Compounds of chromium and manganese. Electric cells. The nucleus of the atom. Liquid and gaseous fuels. Derivatives of the hydrocarbons. Appendix. Index.

Note. (321) An outstanding introductory college textbook. It is particularly suited to students who have studied the subject in high school and intend to pursue it beyond the first college course. No major changes have been made in comparison to the preceding edition. However throughout the book there are revisions, paragraphs, new exercises, and revised lists of supplementary reading. New developments have caused such changes in the following: "Fluorine has (in view of importance) (third edition) to "Thermite and its compounds are becoming increasingly important (fourth edition)

BRISCOE HERMAN THOMPSON

General chemistry for colleges. Fourth edition. Boston Houghton Mifflin Company 1949 773 p illus. 25 cm. \$5.00. 321

Contents (abridged) Matter and energy. Kinds of substances and their chemical changes. Structure of atoms and molecules. Oxidation and combustion. The gas laws and the kinetic molecular theory. Hydrogen. Materials and molecular weights. Atomic weights and combining capacity. Solutions. X-ray spectra, atomic numbers, and the structure of crystals. Radioactivity. The structure of matter. The oxides and other simple compounds of carbon. The atmosphere. The halogens. Oxidation and reduction. The d-block metals. Solutions of electrolytes. Chemical equilibrium. Nitrogen and ammonia. The sulfur family. Solids and related elements. Colloidal dispersions. Organic chemistry—the hydrocarbons. Carbohydrates and proteins—food and nutrition. Energy is chemical change. The metals. Appendix. Index.

Note. (324) A widely used introductory textbook. It contains more material than some texts written at the same level and, although applications are mentioned and shown in illustrations, the main emphasis is on fundamental matters. The author's style is easy to read and the publisher has given the book an attractive format. The third edition was published in 1942. The more prominent changes in the text of the edition relate to select chemistry, atomic energy and radioactivity. However numerous changes have been made in the treatment of other topics. The type of the book has been read and there are new or changed pages.

CARNEY THOMAS PATRICK

Laboratory fractional distillation New York The Macmillan Company 1949 259 p illus 24 cm. \$6.50. 322

Contents. Theory. Mathematical treatment. Column characteristics. Theoretical plates and reflux ratio required for given separation. Separation to be expected. Selection of proper columns. Bubble plate columns. Unpacked columns. Packed columns. Miscellaneous packing. Rectory distillation columns. Effect of variables on column characteristics. Operation of the column. Vacuum fractionation. Construction of columns. Tasting the column. Accuracy equipment. Special columns. Vapor-liquid equilibrium determinations. Azeotropic and extractive distillation. Micro and semimicro fractionation. Molecular distillation. General bibliography. Index.

Note. Graduate chemists, laboratory technicians, and advanced students will find this volume valuable and practical guide to the methods and techniques of fractional distillation. Fundamental principles are discussed, but the construction and operation of laboratory distillation apparatus and especially the packing and construction of columns is emphasized. Information is provided regarding rate of operation, cost, comparative efficiency etc., of various types of apparatus. Line drawings and diagrams are used freely and 22-page classified bibliography is included.

DEMING, HORACE GROVE

General chemistry an elementary survey emphasizing industrial applications of fundamental principles. Sixth edition. New York John Wiley & Sons Inc. 1952 656 p illus. 24 cm. \$5.75. 323

Contents (abridged) The beginnings of chemistry. Minerals and substances. Atoms and molecules. Energy. The properties of gases. Liquids and solids. Solutions. Electrolysis and voltage. Acids. Neutralization and hydrolysis. The colloidal state of matter. Chemical equilibrium. Oxidation and reduction. Nuclear chemistry. The hydrocarbons. Cellulose products, plastics. Esters, ethers, aldehydes, ketones. Industries based on sulfur and salt. The ceramic industries. Iron and steel. Electrochemistry. The transition metals. Index.

Note. (327) A long established—the first edition was published in 1923—introductory textbook for use in college courses. One of its chief characteristics is the purposeful relating of the theoretical material to practical applications. Features intended to stimulate the interest of engineering students. Many changes in both text and illustrations were made in preparing the present edition. Most of the new material relates, as might be expected, to developments pertaining to atomic structure and to new industrial processes and products.

DYER, WALTER SHERMAN, AND MANFRED E. MUELLER

A practical survey of chemistry Revised. New York Henry Holt and Company 1950. 564 p. illus. 22 cm. \$4.30. 324

Contents (abridged) Nature of chemistry. The background of chemistry. The beginning of chemistry. The atmosphere. Hydrogen. Water. Classification of the elements. Modern atomic theory. Solids, ceramics, cement. Fertilizers, nitrogen, phosphorus, explosives. Metals. Carbon and its oxides. Fuels. The hydrocarbons. Glass, plastics. Fuels, sewage, protective coatings. Carbohydrates, fats, proteins, vitamins. Vitamins, hormones, drugs, antibiotics. Nuclear chemistry. Research—method of progress. Index.

Note. An exceptionally brief, useful chemistry work. Selected general principles and applications of chemistry are covered descriptively in a style that encourages reading. The book is used chiefly as text in "calculus" courses in colleges. It has some appeal also for general readers who are not in college. Many revisions and additions were made in the preparation of the present edition to bring the book up to date on such topics as the antibiotics and nuclear chemistry.

FELSGING WILLIAM AUGUST AND GEORGE W. WATT

General chemistry Third edition. New York McGraw-Hill Book Company, Inc. 1951 558 p illus 24 cm. \$5.50. 325

Contents (abridged) Forms of matter. Weight relationships. The structure of atoms. Properties of gases. Relative weights of molecules. Solutions. Acids, bases, and salts; nonelectrolytes. Ionization. Ion equilibrium. Classification of the elements. Colloids. Electrolysis. Industrial electrochemical processes. Battery cells. Metals and alloys. Heavy metals. Some basic compounds of some metallic elements. Chemical reactions of acids and bases. Nuclear chemistry. Organic chemistry. Appendix. Answers to problems. Index.

Note. (328) An introduction to the fundamentals of chemistry for first-year college students. The chief differences between this and the previous edition are greater emphasis on quantitative methods and rearrangement in the order of subject presentation. The atomic structure is now discussed in the fourth instead of the fourteenth chapter and nuclear chemistry is deferred until the final chapter. The subject of chemical equilibrium is treated in greater detail, and the number and variety of review problems have been increased. Answers to numerical problems are included.

HATCHER WILLIAM HOOKER

An introduction to chemical science. Second edition. New York John Wiley & Sons, Inc., 1949 449 p illus. 22 cm. \$4.50. 326

Contents (abridged) Part I. Inorganic chemistry. The chemical stock in trade. The three states of matter. The elements. Carbon and life. Molecules and atomic weights. What is chemical bond?

tion? Acids, bases, salts. Colloidal solutions. The periodic classification of the elements. Part 2, Organic chemistry: Pictures from the past. Organic alcohols. The carbohydrates. Fats and oils—soap—paint. Explosives—dyes—pharmaceuticals. Part 3, Food chemistry. Part 4, Industrial chemistry: Raw materials and their sources. Catalysts in industry. Ceramics. Petroleum. Chemistry in the home. Books for supplementary study listed.

Note. (314) An elementary college text designed for non-scientific courses and liberal arts students. The treatment is largely historical with emphasis on the practical applications of chemistry to modern life. In this revision the general format and scope of the original edition have been maintained, but some sections have been rewritten and new material included on properties of matter, atomic weights, electrolysis, metals and alloys, and the vitamins. Each chapter again concludes with summary and review questions.

HOLMES, HARRY NICHOLLS

General chemistry Fifth edition. New York The Macmillan Company, 1949 708 p. Illus. 22 cm. \$5.50 327

Contents (abridged). The composition of pure substances. The atomic theory. Atoms, molecules, and equivalent. Gases, liquids and solids. Valence. Water and hydrogen peroxide. Carbon and its oxides. Solutions. The simple inorganic acids, bases and electrolytes. The modern theory of acids and bases. Equilibrium. Sulfuric acid and the oxides of sulfur. The periodic system. Structure of the atom. Nuclear chemistry. The atmosphere. Nitrogen and ammonia. Colloid chemistry. Compounds of the metals. Preparation of the metals. Electrochemistry. The aliphatic hydrocarbons. Rubber. The aromatic hydrocarbons. The carbohydrates. Cellulose and its esters. Dyes. Plastics. Food and nutrition—chemotherapy. Radiation chemistry. Appendix. Index.

Note. (317) A widely used laboratory textbook. Although it is designed for students who will take additional courses in chemistry about as much space is given to descriptive chemistry as to basic principles. The fourth edition was published in 1944. A considerable range of new material has been added in this edition in order to bring the work abreast of the many advances in chemical knowledge and the applications of chemistry in the past decade. The author is member of the faculty of Oberlin College.

HOLMES, HARRY NICHOLLS

Introductory college chemistry Fifth edition. New York The Macmillan Company 1951 594 p. Illus. 22 cm. \$5.50. 328

Contents (abridged). The field of chemistry Matter and energy Atoms and molecules. The composition of pure substances. Hydrogen. Oxygen. Gases. Liquids and solids. Electrolysis and oxidation. Water and hydrogen peroxide. Solutions. Chlorine, bromine, iodine, and fluorine group. The alkali metals, group 1A. Boron. Zinc and electrolysis. Equilibrium. Structure of the atom. Radioactivity. Nuclear chemistry. Atomic fission. Solids and hydrogen sulfide. The atmosphere. Nitrogen and ammonia. Nitrogen fixation. The phosphorus group. B. Carbon and silicon, 14A. Compounds of the alkali metals, 1A. Compounds of copper, silver, and gold, 1B. Compounds of zinc, cadmium, and mercury, 1C. Compounds of aluminum and boron, 13A. Compounds of tin and lead, 14B. Compounds of chromium and manganese, 15A and 16A. Compounds of iron, cobalt, and nickel, 16A. The platinum group. Properties and uses of the metals. Alloys. Steel. Electrochemistry. Colloid chemistry. The aliphatic hydrocarbons. Rubber. The aromatic hydrocarbons. The carbohydrates. Cellulose and its esters. Plastics. Nutrition. Chemistry. Appendix. Index.

Note. (317) An introductory textbook which has achieved wide use in American colleges since the publication of the first edition in 1921. As is common in such books, the basic topics in organic and inorganic chemistry are covered in a descriptive fashion, with enough references to applications to hold the interest of beginning students. The fourth edition was published in 1944. A fair amount of material on such topics as atomic energy and isotopes, synthetic fibers, plastics, and the hydrogen bomb has been added in this edition. A more important change is rewriting of the sections on atomic structure so as to place more emphasis on this knowledge.

HOPKINS B SMITH and JOHN C BAILAR, JR.

General chemistry for colleges. Fourth edition. Boston D C Heath and Company 1951 694 p. Illus. (part col d) 24 cm. \$6.00 329

Contents (abridged). Fundamental concepts and laws. Atomic structure. Valence. The periodic system. One, two, three, four, and five valence. Colloid chemistry. Chemical equilibrium. Hydrogen halides. The atmosphere. Carbon and its inorganic compounds. The metallic elements. The chemistry of the nucleus. Appendix. Index.

Note. (318) A standard introductory textbook, written by two members of the faculty of the University of Illinois. Basic principles are well covered, and there is also good detail of space given to descriptions of industrial chemistry and to technical applications of chemical principles. There are 73 tables of reference data, generous number of illustrations, and selected reading lists. The chapter on the chemistry of the nucleus was added in this edition. New problems and references have been revised, and many paragraphs and larger parts have been rewritten.

LAURENGAYNE, ALBERT WASHINGTON

General chemistry New York Rinehart & Company, Inc. 1949 528 p. Illus. 24 cm. \$5.00. 330

Contents (abridged). The laws of chemical change and the atomic theory. Substances and formulas. Chemical reactions and equations. Energy and chemical change. The gaseous state. The liquid state. The solid state. Reaction rates and chemical equilibrium. Atomic structure and the classification of the elements. Chemical bonding. Electrolytic dissociation and ionic equilibria. Ionic reactions. Electrolysis. The halogens. The sulfur family. Nitrogen. Carbon and its inorganic compounds. Organic chemistry. Solids and its compounds. The metals. Nuclear structure and radioactivity. Colloidal systems. Appendix. Index.

Note. An introductory textbook designed for first-year college students. It supplies sound knowledge of the fundamentals of chemistry in preparation for further work in the field or for work in such fields as physics, engineering, or in the biological sciences. Throughout the work the equations are closely related to the modern knowledge of the atom and other physical principles on which modern chemistry is based. Chemical bonding is explained in terms of electronic structure. The author is Professor of Chemistry at Cornell University.

MARTELL, ARTHUR EARL, and MELVIN CALVIN

Chemistry of the metal chelate compounds. New York Prentice-Hall Inc., 1952 613 p. Illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer editor) \$13.50 331

Contents. Introduction. Methods of determining the presence of chelates. Stability constants. Influence of the structure of the chelating agent. Effect of metal ion. Bond type. Structure of chelate compounds. Catalytic effects of chelate compounds. Separation of metal ions. Uses of chelating agents. Appendix: Chelate stability constants. Optical activity and related properties. Chemistry of metals. Thermodynamic constants for reactions of metal with chelating agents. Author index. Subject index.

Note. The theoretical chemistry of the metal chelate compounds, their properties, and the uses of chelating agents are all covered in this work, which is both a comprehensive monograph and a reference book of useful data. The discussion of such topics as the influence of the structure of the chelating agent are supplemented by many tables of organized data. 41 pages table of chelate stability constants. Hundreds of literature references are included as footnotes. The book is of interest to graduate chemists in several branches of chemistry including analytical chemistry, biochemistry, water treatment, and dyeing. A basic work in the theoretical study of chelate chemistry.

PAULING LINUS

College chemistry an introductory text book of general chemistry Illustrations by Roger Hayward. San Francisco W H. Freeman and Company, 1950 705 p. Illus. 25 cm. (A series of chemistry texts, Linus Pauling, editor) \$5.00. 332

Contents (abridged). The nature and properties of matter. Elements, elementary substances, and compounds. The chemical elements and the periodic law. Ions, ionic valence, and electrolysis. Covalence and electronic structure. Oxidation-reduction reactions. The halogens. The laws of electrolysis; electrochemical processes.

The properties of solutions. Chemical equilibria and the rate of chemical reactions. Acids and bases. Solubility product and precipitation. Complex ions. Organic chemistry. Biochemistry. The chemistry of life. Energy and chemical change. Nuclear chemistry. Appendices. Index.

Note: (248) A less mathematical and easier introduction than the author's General chemistry. It is somewhat better suited to the needs of students who are not planning to major in chemistry than is the earlier work. The emphasis is on basic phenomena and theory but numerous applications are mentioned. There are fuller discussions of some subjects, for example chemical equilibrium, than are commonly found in introductory texts. Most of the chapters whose titles have been omitted in the above table of contents are devoted to groups of metals or other related substances.

SCHLESINGER, HERMANN IRVING

General chemistry. Fourth edition, completely revised and rewritten. New York: Longmans Green and Co., 1950. 811 p. Illus. 21 cm. \$5.75 333

Contents (abridged) Some fundamental concepts of chemistry. The kinetic molecular theory. Critical phenomena and the liquid state of gases. Atomic theory and atomic weights. Introduction to chemical equilibrium. Heat of formation of oxides. Atomic structure. The behavior of ions and ionic compounds. The law of chemical equilibrium. The alkali and the alkaline earth groups. The halogens. Nitrogen and some of its compounds. Organic chemistry and its contribution to chemistry as a whole. Solids and some of its compounds. The colloidal condition. The copper group. The zinc group. Radioactivity and atomic fusion. Appendices. Index.

Note: (350a) One of the more successful introductory texts in general chemistry. In contrast to most books of the kind, it presents systematic and fairly solid introduction with some material on relatively advanced topics in chemistry. It has some reference value, especially in such features as the 31-page table of physical properties of the inorganic compounds. In comparison with the previous edition, this one has been recognized and the type has been revised. Discussions of considerable number of new topics have been added.

THOM JOHN ARREND

General chemistry. Second edition. New York: McGraw Hill Book Company Inc., 1950. 764 p. Illus. 24 cm. \$5.50 334

Contents (abridged) Matter. Atoms and molecules. Changes in matter. Reactions of crystal Valency. The properties of gases. The kinetic-molecular theory. Liquids. Solids. Solutions. Dissociation of molecular and atomic weights. The halogens. Atomic structure. The nuclei of atoms. Reaction velocity and chemical equilibria. Ionization of acids, bases and the salts. Precipitation. The atmosphere. Nitrogen and ammonia. Oxidation-reduction reactions. Phenomena. Carbon. Cellulose. The metals. Electrolysis. Alkali and alkaline-earth metals. Copper silver and gold. Zinc, cadmium, and mercury. Aluminum and the other metals of group III. Chromium, iron, and lead, the metals of group VII. Iron, cobalt, nickel, and the other metals of group VIII. Chromium, manganese, and other transition metals. The aliphatic hydrocarbons. The aromatic hydrocarbons. The chemistry of life. Index.

Note: (354a) An introductory text in which historical information and descriptive material on applications are combined with basic knowledge to form readable work suitable for first year college students and also for general readers in search of factual information. There are over 200 illustrations, not counting the numerous structural diagrams. The first edition was published in 1944. In this edition the level of treatment has been raised somewhat and many additions of information have been made.

INORGANIC CHEMISTRY

AUDRIETH LUDWIG FREDERICK, AND BETTY ACKERSON OGG

The chemistry of hydrazine. New York: John Wiley & Sons, Inc., 1951. 244 p. 22 cm. \$5.00. 335

Contents Hydrazine as hydrazine and an azo compound. Formation and preparation of hydrazine. Preparation of azo compounds and azobenzene hydrazine. Properties of azobenzene hydrazine. Properties of aqueous solutions of hydrazine. Oxidation of hydrazine; catalytic decomposition. Quantitative determination and qualitative identification of hydrazine. Hydrazine salts. Combination

compounds of hydrazine. Azobenzene hydrazine as solvent. The hydrazine system of compounds. Uses of hydrazine and its compounds. Index.

Note: A monograph in which the knowledge of hydrazine, N₂H₄, presented down to about 1949 has been expanded and summarized. References are given to the literature, including the patent. Most of the book is written from the viewpoint of theoretical and research chemists, but the chapter on uses is devoted to industrial chemists. The book was originally prepared as an Office of Naval Research report, and revisions and additions were made for this edition.

BOOTH, HAROLD SIMMONS AND DONALD RAY MARTIN

Boron trifluoride and its derivatives. New York: John Wiley & Sons, 1949. 315 p. Illus. 22 cm. \$7.50 336

Contents. History and preparation of boron trifluoride. Physical properties. Chemical properties of boron trifluoride. The coordinating power of boron trifluoride. Fluoroboric acids and their salts. Boron trifluoride and its derivatives as catalysts. Analysis of boron trifluoride and its derivatives. Practical handling of boron trifluoride. References. Author index. Subject index. Formula index.

Note: Boron trifluoride has been known for more than a century but it is only in the last decade and half that its usefulness in chemical research and in industrial chemistry has been widely recognized. This book is probably the first comprehensive treatment of the compound and its derivatives. Essentially it is a digest of the extensive periodical and patent literature. The literature itself is cited in bibliography which runs to almost 1,000 references. The book is of potential value to applied chemists in number of fields, such as petroleum chemistry, cosmetics, electrophilic, and plastics, as well as to chemists engaged in fundamental research.

DICKER GERHARD HEINRICH, AND A. B. F. DUNCAN

Spectroscopic properties of uranium compounds. New York: McGraw Hill Book Company Inc. 1949. 290 p. Illus. 24 cm. (National nuclear energy series. Manhattan Project technical series. Division III—Volume 2) \$4.25 337

Contents. Part I. Spectroscopic properties of uranium compounds. Experimental procedures. X-ray analysis of the crystal structure of uranium compounds. General features of the fluorescence and absorption spectra of uranyl compounds. Fluorescence spectra of uranyl compounds. Absorption spectra of uranyl compounds. Intensity measurements. Microchemical observations. Miscellaneous uranium compounds. Part II. The preparation of uranium compounds. Synthesis of uranyl compounds. Preparation of other uranium compounds. Problems in synthesis. Growth of crystals. Conclusions and suggestions. Appendixes: Tables of wavelength measurements. Spectral preparations and apparatus. Miscellaneous contributions to the chemistry of uranium. Bibliography. Index.

Note: Presented in this volume are the results of comprehensive study carried out largely at Columbia University under the auspices of the Manhattan Project. Fundamental results from the literature are included and correlated. Experimental techniques—many of them new—used in the work are described. The study not only advanced the understanding of the uranyl compounds but also provided fundamental knowledge pertinent to the understanding of the solid state.

HURD DALLAS T

An introduction to the chemistry of the hydrides. New York: John Wiley & Sons, Inc. 1952. 231 p. Illus. 24 cm. \$5.50 338

Contents. Introduction to the hydrides—general considerations. The hydrides of the alkali metals. The hydrides of the alkaline earth metals. The hydrides of beryllium and magnesium. The covalent hydrides—general considerations. The hydrides of the group III elements. The hydrides of the group IV elements. The hydrides of the group V elements. The hydrides of the group VI elements—F, Cl, Br, I. Acids and bases. The complex hydrides. The hydrides of the transitional elements. The hydrides of the lanthanides. Nomenclature of the hydrides. Appendixes. Descriptive. Toxicology of the hydrides. The various manipulations of volatile compounds. Sources of hydrides. Extended tables of physical

ical properties and thermodynamic data for the known hydrides. Author index. Subject index.

Note: The author has used the term "hydride" to designate binary compounds which contain one other element and hydrogen and also to designate certain compounds which are complex derivatives of binary hydrides. Most of the book consists of compact essays on specific hydrides, organized according to the following formulae: tabulated statement of chemical and physical properties, discussion of the structure, descriptions of methods of laboratory preparation, discussion of properties, statement on uses and literature references. *Frage*—variations from this formula are found; for instance, safety precautions in handling are described for the hazardous compounds. The book is of interest both to chemists engaged in pure research and to those concerned with applications, since industrial uses are frequently mentioned in the paragraphs on uses of the individual compounds.

KILKIFFER, DAVID HERBERT, AND ARTHUR LINZ

Molybdenum compounds their chemistry and technology With a chapter on the structural chemistry of molybdenum by Linus Pauling. New York Interscience Publishers 1952 407 p. 24 cm. \$10.50 339

Contents: Introduction. Sources of molybdenum compounds. Properties of molybdenum. Oxides of molybdenum. Sulfides of molybdenum. Halides of molybdenum. Molybdenum in organic. Complex salts of molybdenum. The structural chemistry of molybdenum. Molybdenum in life processes. Analytical procedures. Molybdenum in color. Macromolecular applications of molybdenum compounds. Molybdenum catalysis. Subject index.

Note: Essentially this work is a critical digest of the published literature bearing on the chemistry of molybdenum and on the chemical applications of the element. Metallurgical applications are not covered. The typical chapter is a condensed discussion supplemented by tabulated data and literature references. The chapter on analytical procedures is one of the longer ones in the book and consists largely of detailed descriptions of procedures used in the laboratory of the Chas. Molybdenum Company. The chapter on molybdenum catalysis, together with the bibliography of patent and other literature that accompany it, fills only five pages short of half of the length of the book. Though not well organized, the work is highly useful as a guide to the literature and to the high points of the subject.

KIRBALL ALICE H., compiler

Bibliography of research on heavy hydrogen compounds edited by Harold C. Urey and Isidor Kirschbaum. New York McGraw Hill Book Company Inc. 1949 350 p. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III—Volume 4C) \$4.75 340

Note: A comprehensive bibliography of the international literature of deuterium and deuterium compounds. The main arrangement is alphabetical by author's name, and names are provided to subjects and compounds. Titles of articles are given, and titles in foreign languages have been translated without, however, quotation of the original titles.

KIRSCHBAUM ISIDOR

Physical properties and analysis of heavy water Edited by Harold C. Urey and George M. Murphy. New York McGraw Hill Book Company, Inc., 1951 438 p. illus. 24 cm. (National nuclear energy series. Division III—Volume 4A) \$6.00 341

Contents: Physical properties. Equilibrium constants for exchange reactions. Isotopic analysis for the mass spectrometer. Isotopic analysis of heavy water by the mass spectrometer. Other methods of isotopic analysis of heavy water. Mutual solubilities of hydrogen and deuterium isotopes. Author index. Subject index.

Note: An important contribution to the literature of isotopes. It is the product of a concentrated effort, carried out at the Salk Laboratories at Columbia University to compile reliable data on the physical properties of the isotopes of hydrogen. In the course of

this work, previously published data were critically evaluated and additional data were derived from new experiments. The work included the development of suitable procedures for the analysis of isotopes, and these procedures are fully described. Each chapter has appended to it a list of references. These lists include numerous project reports as well as journal articles.

KLEINBERG JACOB

Unfamiliar oxidation states and their tabilization. Lawrence University of Kansas Press, 1950 131 p. illus. 22 cm. \$3.00 342

Contents (abbreviated): Low oxidation states of the elements of the aluminum group. Oxygen: The superoxides of the alkali and alkaline earth metals. The halogens. Copper and silver. Chromium and manganese. Iron, cobalt, and nickel. The "rare-earth" elements. References. Index.

Note: A book of interest to advanced students majoring in chemistry and to professional chemists. It is an excellent source of information on oxidation states of elements which are uncommon but have existence has nevertheless been clearly established. A good share of the book has to do with stabilization of these rare states by such means as alkali salts, use of solvents, high pressures, reducing properties, and the selection of conditions which favor the desired oxidative state. The study of these states is valuable from several standpoints, such as the insight gained into atomic structure, the enabling of greater accuracy in the chemistry of chemical reactions, and the production of new chemical substances. Though brief, the work is based on an extensive review of the literature, and has an 8-page bibliography.

LATIMER, WENDELL MITCHELL

The oxidation states of the elements and their potentials in aqueous solutions. Second edition. New York Prentice-Hall, Inc., 1952 392 p. illus. 24 cm. (Prentice-Hall chemistry series, Wendell M. Latimer editor) \$10.00 343

Contents: Units, conventions, and general methods employed in the determination of oxidation-reduction potentials. Ionization potentials, electron affinities, lattice energies, and their relation to standard oxidation-reduction potentials. Hydrogen. Oxygen. The halogens. Sulfur. Selenium, tellurium, and polonium. Nitrogen, phosphorus, arsenic, antimony and bismuth. Carbon, silicon, germanium, tin, and lead. Gallium, indium, and thallium. Zinc, cadmium, and mercury. Copper, silver, and gold. Nickel, palladium and platinum. Cobalt, chromium, and molybdenum. Iron, ruthenium, and osmium. Manganese. Cerium, lanthanum, and thorium. Chromium, molybdenum, and tungsten. Vanadium, antimony, and bismuth. Tin, thallium, cerium and hafnium. Boron, aluminum, scandium, and yttrium. Lanthanum and rare earth elements—the lanthanide series. The actinide elements. Hydrogen, selenium, tellurium, strontium, radium, and radon. Lithium, sodium, potassium, rubidium, cesium, and francium. Appendix: Summary of oxidation-reduction potentials. The activity of strong electrolytes. The estimation of activity values. Study questions. Author index. Subject index.

Note: A reference book of thermodynamic data pertaining to the elements and their chief inorganic compounds. For each element the following information is given: the number of valence electrons, the oxidation states, heats of formation, free energies of formation, entropies, and "potential diagrams." If the element has more than one oxidation state, forms of the data are taken from the literature and references are given to the sources. Other data are based on the author's own calculations. In the present edition more information has been included on reaction mechanisms and there is now a chapter on oxidation, reduction, platinum and osmium. In other parts numerous changes have been made in values and constants. References to the literature published since 1938 have been added.

LATIMER, WENDELL MITCHELL, AND JOEL H. HILDEBRAND

Reference book of inorganic chemistry Third edition. New York The Macmillan Company 1951 625 p. 22 cm. \$4.50 344

Contents (abbreviated): Hydrogen. Inert gases. Oxygen. Alkali metals. Boron, aluminum. Copper, silver and gold. Gallium, indium, and thallium. The halogens. Nitrogen, phosphorus, arsenic, antimony and bismuth. Carbon. Silicon. Sulfur. Selenium, tellurium, and polonium. Iron, cobalt and nickel. Platinum and palladium metals. The actinide elements. Nuclear reactions. Glossary. Appendixes. Index.

Notes (841) A compendium of reference data on such points as electronic structure, physical and chemical properties, methods of preparation, uses, and important compounds of the elements. The arrangement is by element and family of elements. Although numerous tables are included, most of the information is presented in narrative style, for instance: Amorphous silicon is prepared by the high temperature reduction of silicon halides by alkali metals, or of the halides by magnesium: $SiCl_4 + 4 Na \rightarrow Si + 4 NaCl$. The book was originally prepared as a supplement to an introductory college text of which the current edition is: J. H. Hildebrand and R. K. Powell, *Principles of chemistry*, sixth edition, New York, The Macmillan Company, 1952 444 p., \$4.50. The two works are available as separate books and also bound together. However, the reference book may be used quite independently of the *Principles*. In comparison to the second edition, published in 1940, the work is 43 pages longer, contains one new chapter and a fair number of other revisions.

MOELLER, THERALD

Inorganic chemistry an advanced text book. New York John Wiley & Sons Inc., 1952 966 p. illus. 24 cm. \$10.00 345

Contents (abbreviated) Part one, Principles Atomic nuclei and properties related thereto. The extranuclear structure of the atom. Characteristics dependent upon the extranuclear structure, 1, general— α , valency and the chemical bond. Complex ions and coordination compounds. Oxidation-reduction—oxidation potentials. Acids and bases. *See-saw* solvents. Part two, The chemical elements. The inert gas elements. Hydrogen. The halogens. The oxygen family. The nitrogen family. The carbon family. The boron family. The alkali and alkali earth metals. The alkaline earth and also lanthanide elements. The transition elements. The later transition elements. Appendix: Characteristics of the naturally occurring isotopes. Members of the disintegration series. Author index. Subject index.

Note. In spite of the current interest in inorganic chemistry the subject is poorly supplied with modern textbooks, and advanced textbooks in the field are very meagre. This work, developed on the basis of courses offered for a number of years at the University of Illinois, is well-organized presentation of the scientific basis of modern inorganic chemistry together with descriptions at an advanced level of the characteristics and properties of the inorganic compounds. A typical statement from the latter part reads: "carborane trichloride is an covalent compound, whereas the trichloride is ionic, the major heats of formation being -26.2 kcal. and -15.4 kcal., respectively. The text is well documented with numerous references in both parts. It is particularly of interest to graduate chemists as well as to students.

SEABORG, GLENN THEODORE, AND OTHERS, editors

The transuranium elements research papers edited by Glenn T. Seaborg Joseph J. Katz, and Winston M. Manning. New York McGraw Hill Book Company Inc., 1949 2 v. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section Div. 14B) \$15.00 \$23.75 346

Note. A collection of original research papers bearing on plutonium and the other transuranium elements. The papers range in date from 1940 to as late as 1948, but most of them were written in 1943-1944 in connection with government sponsored research on the atomic bomb and atomic energy. Literature references are included and there are some diagrams of apparatus setups. The two volumes form a well and are not sold separately.

SIMONS JOSEPH H. editor

Fluorine chemistry Volume 1. New York Academic Press, Inc., 1950 615 p. illus. 24 cm. \$13.50 347

Contents. *Narrative*. Inorganic fluorides, by H. J. Emswiler. Volatile inorganic fluorides, by A. B. Burg. The chemistry of the fluoro acids of sulfur, with and with group elements, by W. L. Langer. The halogen fluorides, by H. S. Booth and J. T. Pashley. Inorganic fluorides, by H. S. Booth and D. E. Martin. Hydrogen fluorides, by J. H. Simons. Hydrogen fluoride catalysis, by J. H. Simons. Properties of fluorine, by G. H. Cady. Physical properties of fluorine, G. H. Cady and L. L. Burger. The chemical aspects of

fluorine chemistry, by G. Glickler. The action of elementary fluorine upon organic compounds, by L. A. Nigam. Fluorocarbons and their production, by J. H. Simons. Fluorocarbons—their properties and wartime development, by T. J. Erics. Fluorocarbon derivatives, by W. H. Perkin. Aliphatic chlorofluorocarbon compounds, by J. D. Part. Fluorine compounds in glass technology and ceramics, by W. A. Weyl. Author index. Subject index.

Notes. The first volume published as comprehensive survey of fluorine chemistry. It is composed of monographic articles by prominent chemists who have made contributions to the subject, and the editor himself has been one of the leaders in the development of the field. The book is addressed to graduate and postgraduate chemists. Each chapter is a compact review of the literature and knowledge of particular aspect of the subject and concludes with comprehensive list of the pertinent literature. A second volume containing seven additional monographs is scheduled for publication.

ANALYTICAL CHEMISTRY

ABRENS, LOUIS HERMAN

Spectrochemical analysis. Arranged particularly for the D. C. arc analysis of minerals, rocks and soils and applicable also to ceramic materials refractories slag biological ash and powders in general. Foreword by George R. Harrison. Cambridge Addison Wesley Press, Inc., 1950 269 p. illus. 23 cm. \$10.00. 348

Contents (abbreviated) Part I, General principles: The origin and interpretation of spectra. Some physical features of the D. C. arc discharge. Power for the arc source. Qualitative analysis. Selective volatilization. General principles of quantitative analysis. Effect of change of composition on line intensity. The photometric measurement of radiant energy and the construction of a working curve. The emission of band spectra from the arc. Part II, The elements. Bibliography. Author index. General index. Wavelength tables.

Note. The author of this practical treatment has not assumed that his readers will have had any previous experience with spectrochemical analysis, but he has assumed familiarity with basic physical concepts and terminology and with basic chemistry. The first part of the book is devoted to the general aspects of spectrochemical analysis. In the second part, some quantitative and qualitative analytical methods applicable to specific elements are described in detail. Numerous special points based largely on the author's experience are included in the descriptions of procedures. There are copious references to the related literature. The book is of particular interest to workers in geochemistry but it has application to analytical work in many other fields.

AMERICAN CHEMICAL SOCIETY COMMITTEE ON ANALYTICAL REAGENTS

Reagent chemicals—specifications 1950. Washington, D. C. American Chemical Society 1951 401 p. 24 cm. \$5.00 349

Contents. Foreword. Preface. Definitions, procedures, and standards. Specifications. Index.

Note. A reference book of specifications for reagents to be used in precise analytical work. For each reagent requirements of purity are stated and standard tests for each requirement are described.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on flame photometry Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City N. J. June 19 1951 Philadelphia American Society for Testing Materials, 1952 120 p. illus. 23 cm. (Special technical publication no 116) Paper \$2.00 350

Contents. Introduction, by R. O. Clark and L. R. Fritchard. A review of flame photometry, by V. M. Malachuk. A stable and standard flame photometer for sodium, potassium, lithium and calcium analyses in biological fluids and study of the interference, by C. L. Fox, Jr., and others. Use of the Beckman and Perkin-

Klein flame photometer for the determination of alkalies in Portland cement, by J. J. Diamond and L. Bean. Application of flame photometry for the analysis of alkalies in effluents, waters and metals, by J. L. Guilford. The determination of lithium oxide in Portland cement by flame photometer, by W. J. McCoy and G. G. Christensen. Control of interference caused by acids and salts in the flame photometric determination of sodium and potassium, by F. T. Kaperian and others. The effect of organic solvents on the flame photometric analysis of certain elements, by G. W. Curtis and others. Determination of tetraethyllead in gasoline by flame photometry, by F. T. Gilbert, Jr. Determination of calcium in lubricating oil by flame spectrophotometer, by M. L. Mabey and others. A modified scintillation flame photometer, by W. H. King and William Priestley Jr. Flame photometer in the analysis of water and water-based deposits, by R. K. Scott and others. General discussion.

Note: Recent developments in the field of flame photometry are treated from the basic theme for the purpose in this symposium. Each paper is the work of an expert engaged in active research, and in most cases in the report of an original contribution to the subject. Applications of the technique in the analysis of industrially useful substances are emphasized. Bibliographies and discussions are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on rapid methods for the identification of metals. Presented at the fifty second annual meeting, American Society for Testing Materials, Atlantic City N. J., June 28, 1949 Philadelphia, Pa. American Society for Testing Materials, 1950 77 p. illus. 23 cm. (Special technical publication no. 98) Paper \$1.75 351

Contents: Development, present state, and method of spot test analysis, by F. Paul. Electro spot testing and spectroscopy, by H. W. Hermann and H. V. Wadlow. Instruments for rapid metal identification, by R. E. Wilson. Separating alloys by solubility spot tests, by H. Kricheldorf. Rapid methods for the identification of copper-base alloys, by R. F. Mervin. Rapid identification of metal blades, by A. Levin and D. R. Kozak. Examination of plated and protective coatings by spectroscopy analysis, by M. Oshitsuka and R. E. Ashby. A field test kit and procedure for use in the rapid identification of some nickel alloys and stainless steels, by H. B. Lee. Rapid tests for identifying alloy steels, by R. C. Kirkham. General discussion.

Note: A collection of short but valuable original papers on recent developments in rapid methods for the identification or analysis of metals. The various procedures are described explicitly for the identification of professional metallurgists and analytical chemists. The paper are supplemented by bibliographies and literature references.

BERL WALTER GEORGE, editor

Physical methods in chemical analysis. New York: Academic Press Inc., 1950-51 2 vols. illus. 24 cm. Vol. I, \$13.50 Vol. II, \$13.50 352

Contents (abridged): Vol. I: Absorption phenomena of X-rays and rays, by G. L. Clark. X-ray diffraction methods as applied to powders and metals, by W. L. Davidson. X-ray diffraction as applied to films, by J. A. Braggman. Electron diffraction, by L. O. Brockway. Spectrophotometry and colorimetry, by W. R. Bando. Raman spectroscopy, by J. Sherman. Infrared spectroscopy, by H. H. Nielsen and R. A. Outley. Raman spectra, by J. H. Hilsenrath. Polarographic and potentiometric examination of materials by transmitted light, by C. D. West. Reflective index measurement, by L. W. Titus and J. K. Taylor. Electronic microscopy, by R. D. Hollenback. Mass spectrometry, by H. W. Washburn. Atomic lines, Subject Index. Vol. II: Metallography: metallographic analysis—polymetallurgical technique, by J. Haywood. Combustion analysis, by R. T. R. Britton. Potentiometric analysis, by H. A. Lefebvre. Electrography and electro-spot testing, by H. W. Hermann and H. V. Wadlow. Magnetic methods of analysis, by A. E. Kaufmann. The determination of the area of the surface of solids, by G. Jura. Surface tension measurements, by M. Delo. Vacuum techniques and analysis, by R. B. Dwyer. Gas analysis by methods depending on thermal conductivity, by R. R. Warner. The measurement of radioactivity for metal applications, by A. Lange. Statistical analysis, by J. Sherman. Chromatographic analysis, by W. G. Bach. Author Index. Subject Index.

Note: A treatise covering methods of chemical analysis that are of special value in analysis of complex substances. Each of the

papers is essentially a condensed monograph on the subject treated in its title. In most of the papers the underlying theory is outlined briefly but the emphasis is always on instrument, procedure, and applications. References to pertinent literature are cited in all cases, but enough information is given in the paper itself to guide chemists in practical laboratory use of the method.

BOLTZ DAVID F. editor

Selected topics in modern instrumental analysis. New York: Prentice-Hall, Inc., 1952 477 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M. Latimer, editor) \$8.00 353

Contents: Electrodeless cell measurements, by G. A. Parley. Polarographic analysis, by C. L. Ralls. Fluorimetric analysis, by C. E. White. Spectrophotometric analysis, by D. F. Boltz. Spectrochemical analysis, by J. R. Cherrill. Electrochromic and optoelectric methods of analysis, by D. F. Boltz. Analytical applications of ray diffraction, by E. J. Mack. Mass spectrometry, by C. E. Barry and H. F. Wiley. Raman spectroscopy, by D. R. Long. Radiochemical analysis, by R. F. Elder. Appendix. Index.

Note: The ever-increasing use of instruments in the analysis of organic and inorganic materials has given rise to a college course in this phase of analytical chemistry. This text is designed for chemistry students taking such courses at the junior and graduate level. Each chapter has been prepared by specialists in the field, and each type of instrument is discussed as to its fundamental principles, methods of construction and operation, and applications in chemical research. Brief bibliographies, review questions, and laboratory exercises are included.

BURK ROBERT EMMETT, AND OLIVER GRUMMITT, editors

Recent advances in analytical chemistry. New York: Interscience Publishers, Inc., 1949 209 p. illus. 24 cm. (Frontiers in chemistry. Published under the auspices of West ern Reserve University Vol. VII) \$4.50 354

Contents: Volumetry (potentiometry) and amperometry. Introduction, by E. M. Kolthoff. Volumetric analysis with organic reagents, by J. H. Yen. Some recent colorimetric and gravimetric organic reagents, by J. H. Yen. Application of thermal spectroscopy to analysis, by G. Bach. Electronic microscopy and ultraviolet—new methods in chemistry, by J. Ruffet. Fractionation, analysis, and purification of hydrocarbons, by F. D. Russell. Applications of the mass spectrometer, by J. A. Ruppel. Subject Index.

Note: A collection of lectures originally delivered at Western Reserve University. The series has as its purpose the summarizing of recent developments in specific areas of analytical chemistry. The lectures are addressed to advanced students of chemistry and to graduate chemists. The style of presentation is technical and references are made to the literature.

BURKE, OLIVER WALLIS, JR. AND OTHERS, editors

Light hydrocarbon analysis analytical methods compiled and tested for the Office of Rubber Reserve, Reconstruction Finance Corporation by the Butadiene Committee on Specifications and Methods of Analysis. Edited by O. W. Burke, Jr. C. E. Starr Jr. and F. D. Tummeler. New York: Reinhold Publishing Corporation, 1951 639 p. illus. 26 cm. \$15.00 355

Contents: History and function of the Committee on Butadiene Specifications and Methods of Analysis. Butadiene production processes. Butadiene specifications and applicable test methods. Scheme of analysis. Sampling and handling of light hydrocarbons. Analytical methods. Preparation of samples of known composition for test programs. Evaluation of accuracy and precision of methods. Index of apparatus tables. Subject Index.

Note: An important contribution to the literature of analytical chemistry. The heart of the volume is a collection of analytical methods that were compiled and critically evaluated by the committee named in the title for use in connection with the synthetic rubber program of the United States Government during World War

12. In addition, there are full discussions of related topics such as safety precautions and methods of evaluating the results of analytical tests. Each of the analytical methods included is fully described with information on the required apparatus, reagents, and the detailed procedure. The work is of interest to graduate chemists engaged in analytical work in the petroleum and gas industries and in other industries using petroleum gases as raw material.

CASSIDY, HAROLD GOMES

Adsorption and chromatography New York Interscience Publishers Inc., 1951 360 p illus. 24 cm. (Technique of organic chemistry, Arnold Weissberger editor Vol. v) \$7.00 356

Contents: Definitions—molecular aspects of adsorption. Measurement of adsorption. Treatment of data. Relations between relative adsorbability and properties of phases. Relations between relative extent of adsorption and properties of adsorbate. Summary of relations. Graded elements and adsorbents. On the nature of separation processes. Batchwise adsorption and desorption. Lists of adsorbents. Chromatography (Two-column analysis. Chromatographic adsorption analysis. Differential counter-current adsorption analysis). Ion exchange methods. Partition chromatography. On the use of adsorption. Author index. Subject index. Cumulative indexes, volumes 1-5.

Note: A compact survey written on the graduate level. It is part of a series which is designed to provide comprehensive discussions of the various techniques applicable to the study of organic compounds. There is some emphasis on basic principles; nevertheless much specific information is included on techniques, the properties of adsorbents, etc. It must admit the discussion is essentially concise digest of the literature, and the footnote references taken together constitute an extensive bibliography of the subject. Names of the authors of the cited papers are collected in the author index. Factors that make the book useful as guide to the literature. The author is Associate Professor of Chemistry in Yale University.

CURTMAN LOUIS JACOB

Introduction to semimicro qualitative chemical analysis. Revised edition. New York The Macmillan Company 1950 391 p illus (part cold) 21 cm. \$3.75 357

Contents (abridged): Introduction. Part I. Theory. Part II. The usual ions and the anions. Part III. Calculations. Part IV. Laboratory work. Part V. The cations and the anions. Appendix. Checking in. Checking out. Assignment schedule. Integrated lecture topics. Recording notes. Desk equipment. Reagent solutions in student's stock. Analytical solutions and reagents. Reagents. Preparation of test, known and unknown solutions. The Bechman 246 generator. Table—solubilities and solubility products. Table of inorganic compounds. Table of logarithms. Index.

Note: (441) A college laboratory textbook and manual. In the procedures described, the quantities of samples, reagents, and the size of apparatus are reduced to scale 1 one-tenth to one-twenty-fifth of those employed in standard macro methods. Another feature is the emphasis on memorization rather than explicit reagents. In this respect, important changes have been made in the laboratory procedure. The author is Kenneth Professor of Chemistry in the City College of New York.

CUTTING THEODORE ABRAHAM

Manual of spectroscopy Brooklyn, N Y Chemical Publishing Company Inc. 1949 220 p illus. 22 cm. \$6.50 358

Contents: History and theory of spectroscopy. Light sources. Spectroscopes. Spectroscopic analysis. The spectroscope in laboratory. Characteristic lines of the elements. Wave-length table-chart. Appendix. Index.

Note: The main purpose of this short book is to make spectroscopic techniques available to professional workers, such as chemists and engineers, who are new analysts and, also, and other inorganic materials by direct and less precise methods. The discussion of light sources, spectroscopes, and general techniques occupy approximately the first half of the book. The remainder is given over chiefly to tabulation of the characteristic lines of the elements, together with other information useful in work with materials. The book should be especially useful to persons concerned with the analysis of ores and minerals, and its concise descriptions of instruments and techniques should be useful to anyone who is curious about the use of spectroscopy in chemical analysis.

DIEHL, HARVEY, AND G. FREDERICK SMITH
Quantitative analysis elementary principles and practice. New York John Wiley & Sons Inc., 1952 539 p. illus. 24 cm. \$5.00 359

Contents (abridged): The general operations of quantitative analysis. The calculations in gravimetric analysis. Mass action and the solubility-product principle. Volumetric analysis. Theory of neutralization reactions. The practice of neutralization reactions. The theory of oxidation-reduction reactions. The practice of oxidation-reduction reactions. Volumetric reactions involving the formation of insoluble or non-dissociated compounds. Colorimetry. Methods of effecting separations. Electrodeposition. The analysis of ions. The analysis of elements. The determination of pH. Colorimetric and potentiometric methods. Errors: accuracy and precision; confidence limits. Appendix. Glossary. Index.

Note: A modern textbook in which quantitative analysis is presented for students with previous knowledge in analytical chemistry. Although theory is not entirely omitted, the emphasis is on techniques. Some instrumental techniques are covered, and the reagents mentioned include recently developed ones such as acetone. The treatment does not assume previous introduction to analytical chemistry in course in qualitative analysis.

FISTER, HAROLD JOHN

Manual of standardized procedures for spectrophotometric chemistry With a foreword by Margaret A. Baker New York Standard Scientific Supply Corporation, 1950 loose-leaf, unpagged illus. 30 cm. \$30.00 360

Note: A laboratory reference book that provides specific details and directions for tests and analyses with the spectrophotometer in clinical laboratories. For each substance as element, directions are given for several different procedures. Information provided on each procedure includes literature references, general principles, apparatus and reagents needed, step-by-step description of the technique, and calibration curve for use with the Coleman spectrophotometer.

FOULK CHARLES WILLIAM AND OTHERS

Quantitative chemical analysis an introduction to the science and practice of chemical measurement. [By] Charles W. Foulk, Harvey V. Moyer [and] William M. MacNevin. New York McGraw Hill Book Company Inc., 1952 484 p. illus. 24 cm. \$5.00 361

Contents: Introduction. The chemical balance and its use. General operations of quantitative analysis. Apparatus for gravimetric analysis. The operations of gravimetric analysis. Calculations in gravimetric analysis. The solubility of analytical precipitates. Analytical precipitates. Volumetric operations and its calibration. Volumetric solutions and their standardization. Calculations in volumetric analysis. Hydrogen ion concentration of aqueous solutions of acids, bases, and salts. Oxidation-reduction reactions in volumetric analysis. Precipitation reactions and complex formation in volumetric analysis. Errors and statistical methods in chemical analysis. Oxidation-reduction potentials. The potentiometric measurement of pH values. Electrochromic titrations. Electrolytic analysis. Colorimetric analysis. Exercises. Appendixes. Name index. Subject index.

Note: An introductory work for use in college courses. The underlying theory is presented in the first part of the book, and the laboratory exercises are described separately in the latter part. At the table of contents shown, most of the space is given to gravimetric and volumetric methods of analysis, but there is some discussion of instrumental methods. The authors are members of the faculty of Ohio State University.

FRIEDEL ROBERT AUGUSTINE, AND MILTON ORCHIN

Ultraviolet spectra of aromatic compounds. New York John Wiley & Sons Inc. 1951 52 p illus 27 cm. \$10.00 362

Contents: Purpose and scope of the collection. Spectrometric measurements and the absorption law for solutions. Instruments and experimental procedures. Theoretical aspects of ultra violet absorption spectra. The use of ultraviolet spectra in qualitative analysis. Qualitative analysis. Use of the colorimeter. Acknowledgments. Collection of spectra. Name index of spectra. Formula index of spectra.

Note: A collection of the ultraviolet spectra of 379 polycyclic aromatic compounds together with many expert discussions of the use of such spectra in chemical analysis. According to the authors, about half of the included spectra have been taken from the published literature and the other half are original determinations by the authors and other workers in Bureau of Mines laboratories. Graduate chemists interested in the use of ultraviolet absorption spectra in organic analysis will use the book as a reference tool and as an introduction to ultraviolet spectroscopy.

GRIFFIN CARROLL WARDLAW, AND MARY ALYS PLUNKETT

Inorganic semimicro qualitative analysis. New York The Macmillan Company, 1951 299 p. illus. 23 cm. \$4.75 363

Contents: Part I, Theory. Atomic structure, valence and types of compounds. Relations of electrolytes. Chemical equilibria. Hydrolysis. Heterogeneous equilibria. Complex ions and isomorphism. Oxidation and reduction—reactions—theory. Part II, Analytical Laboratory techniques. Preparation of sample. The silver group. The copper-arsenic group. The ammonium-free group. The alkaline earth group. The soluble group. The cobalt. Appendix. Index. The common reactions of the natural substances.

Note: A textbook and laboratory manual for college undergraduates who have completed a year of general inorganic chemistry. The discussion of theory in Part I is sufficiently inclusive to form good foundation for more advanced theoretical studies. In Part II the procedures for the various analyses are presented in a convenient form which includes schematic diagrams of the reactions. The authors are members of the Department of Chemistry of Yonkers College.

HAMILTON LEICESTER F, AND STEPHEN G SIMPSON

Quantitative chemical analysis, Tenth edition. Formerly Talbot's Quantitative chemical analysis. New York The Macmillan Company, 1952 529 p. illus. 21 cm. \$4.50 364

Contents: Part I, Introduction. General considerations. General directions. Common analytical operations. The analytical balance. The procedure of analytical measurements. Review of some basic principles. Part II, Volumetric analysis. General directions for volumetric work. Titration methods. Acidimetry and alkalimetry. Oxidation-reduction (redox) processes. Oxidation-reduction (redox) titrations. Permanganate process. Dichromate and ceric processes. Iodometry (iodimetry). Precipitation methods ("precipitrimetry"). Complex formation methods ("complexometry"). Part III, Gravimetric analysis. General principles of gravimetric analysis. Analysis of soluble salts. Analysis of an ore. Analysis of unknown alloy. Part IV, Instrumental methods. Potentiometric methods. Conductometric methods. Amperometric methods. Optical methods. Gas-volumetric methods. Part V, Miscellaneous determinations. Appendix. Index.

Note: (315*) A standard introductory text and laboratory manual which has been used in successive editions for fifty-five years. It is recognized as one of the standard college texts for understanding of the chemical theory involved as well as the details of quantitative analytical techniques. The present edition represents considerable revision in which the space given to theory has been increased along with other changes. The authors are members of the faculty of Massachusetts Institute of Technology.

HERNO GLADSTONE BERING

The theory and practice of semimicro qualitative analysis. Second edition. Illustrated. Philadelphia W B Saunders Company, 1950 356 p. illus. 22 cm. \$4.00. 365

Contents: (abridged) Part I, Theoretical. Part II, Experimental. The calcium. The sodium. Appendix. Reference books. Equilibrium constants. Oxidation-reduction potentials. Reagents. Equipment. Laboratory tables. Index.

Note: (364) An introductory text and laboratory manual for use in college courses. The laboratory procedures require the use of 0.1

mg. samples and solution volumes ranging from two drops to 1.5 ml. The first edition appeared in 1943. In the present edition there have been some changes in both the theoretical and the experimental parts. The author is Associate Professor in Organic Chemistry in the University of Minnesota.

KELSEY, ERWIN BURR, AND HAROLD G DIETRICH

Fundamentals of semimicro qualitative analysis. Revised edition. New York The Macmillan Company, 1951 328 p. illus. 22 cm. \$4.25 366

Contents: (abridged) Section one, Fundamental theory. Section two, Analytical procedures. Part I, The systematic cation analysis. Part II, The analysis for the non-metal ions. Part III, The analysis of solids. Appendix. Index.

Note: (360) An introductory text and laboratory manual for college courses. The procedures employ original samples of the order of 0.1 mg. (about ten drops) in which the elements of the analytical ions present average about 1 mg. It has been extensively rewritten in the present edition and the type has been reset. The authors are members of the faculty of Yale University.

KIRK PAUL LELAND

Quantitative ultramicroanalysis. New York John Wiley & Sons Inc., 1950 310 p. illus. 23 cm. \$5.50 367

Contents: Introduction. Volumetric apparatus and technique. Colorimetry: apparatus and technique. General apparatus and technique. Microscopic laboratory. Metallic constituents: titrimetric methods. Macromolecular constituents: titrimetric methods. Volumetric gas methods. Spectrophotometric methods. Physical methods. Index.

Note: Several methods require samples of about one milligram in weight. In this new book some related techniques are described, in which samples as small as one microgram may be used. Apparatus and practical laboratory procedures are both described in full detail. There are more than 100 illustrations, most of which pertain to apparatus. The book is intended for graduate students and advanced researchers who are familiar with standard methods.

KOLTHOFF IZAAK MAURITS AND E B SANDELL

Textbook of quantitative inorganic analysis. Third edition. New York The Macmillan Company, 1952 759 p. illus. 24 cm. \$6.50 368

Contents: (abridged) Stoichiometry. Gravimetric analysis: Theoretical part, practical part, gravimetric determinations. Volumetric analysis: Theoretical part, practical part, volumetric determinations. Physical and physicochemical methods of analysis. Analysis of complex materials. Appendix. Index.

Note: (364) A successful college textbook and laboratory guide. The exposition of theory and the descriptions of apparatus and laboratory procedures are fuller and more advanced than in most introductory texts in this field. Literature references are included. The second edition appeared in 1943. Fairly extensive revisions were made in preparing this edition.

MILLON MELVIN GUY editor

Analytical absorption spectroscopy, absorptimetry and colorimetry. New York John Wiley & Sons Inc., 1950 617 p. illus. 23 cm. \$9.00 369

Contents: Chemistry: Preparation of systems for absorption measurement, by M. L. Moss. Physics: General principles of absorption measurements, by M. G. Mellon. Color comparisons, by W. H. Postma. Filter photometry, by R. H. Muller. Spectrophotometry—ultraviolet and visible regions, by K. R. Gibson. Photographic methods, by R. R. Mohler. Applications of ultra-violet and visual spectrophotometric data, by R. I. Shuman. Spectrophotometry—infrared region, by L. J. Dwyer. Measurement and specifications of color, by D. R. Judd. Index.

Note: The principles and techniques of absorption spectroscopy as an analytical tool are presented in this important contribution to the literature of analytical chemistry. Each chapter is in effect a short monograph by specialists, and is accompanied by bibliography of

the pertinent literature. Although available instruments are described, more attention is paid to their operating principles and the techniques of their use. The book is intended for professional chemists. It is of some interest to physicists as well.

MÜLLER, OTTO HEINRICH

The polarographic method of analysis. Second edition. Easton Penn. Chemical Education Publishing Co., 1951. 209 p. illus. 21 cm. (Contributions to chemical education. No. 2.) \$3.50 370

Contents: Introduction and review of electro-analytical methods. Apparatus. Fundamentals of quantitative analysis. Fundamentals of qualitative analysis. Polarometry. Recent developments. Applications. Suggestions for practical polarography. Appendix. General polarographic references. List of experiments. Index.

Note: A short but reliable introduction to an important instrumental technique in chemical analysis. The technique is compared with other methods based on electric current. Typical apparatus is described and applications and limitations are discussed. Embodied in the text are directions for twenty-four laboratory experiments. The first edition appeared in 1941 and consisted of reprints of series of five articles that had appeared in the *Journal of chemical education*. The work has been extensively revised in this edition.

NACHTRIEB NORMAN HARRY

Principles and practice of spectrochemical analysis. New York McGraw-Hill Book Company Inc. 1950. 324 p. illus. 23 cm. \$5.00 371

Contents (abridged): Part I. The principles of spectrochemical analysis. The role of spectroscopy in analytical chemistry. Flame spectroscopy and the radiation of light. The detection of light by slit and grating. The photographic process. The evaluation of photometric data. Direct-reading spectrometers. The origin of spectra. Part II. The practice of spectrochemical analysis. The evaluation of spectra. The quantitative analysis of metals. Qualitative analysis. The analysis of refractory materials. The analysis of solutions and solid salts. Chemical separations in spectrochemical analysis. Index.

Note: A practical and rather thorough text for advanced college students and professional chemists who are just beginning to use spectrochemical analysis. The emphasis is on principles, but standard apparatus and its elements are adequately described. The basic physical principles and the chief instruments are discussed in the first part. The second part serves to introduce the reader to practical use of the techniques of spectrochemical analysis. Auxiliary techniques, such as precipitation of precipitates, extraction by solvents, the use of electrolytic concentrations, which are useful in association with spectrochemical methods, are briefly outlined in the final chapter. The scope of the work is limited to emission spectroscopy in the ultraviolet and visible ranges.

OELKE WILLIAM C

Semimicro qualitative analysis. Boston D. C. Heath and Company 1950. 377 p. illus. 22 cm. \$4.00 372

Contents (abridged): Part I. General theory. The solubility of solids. Acids, bases, and salts. Polybasic acids and bases and hydrolysis. Oxidation and reduction. Complex compounds. Part II. Laboratory and applied theory. Simultaneous reactions. Aqueous analysis. Organic analysis. Systematic analysis. Appendix. References and further reading. Data section. Index.

Note: An introductory textbook designed for study by students who have completed college course in general chemistry. It contains both material for classroom instruction and directions for laboratory work. The author is Chairman of the Department of Chemistry of Grinnell College.

PATTERSON ANDREW JR., AND HENRY C THOMAS

A textbook of quantitative analysis. New York Henry Holt and Company 1952. 500 p. illus. 22 cm. \$4.25 373

Contents: The principles of analytical chemistry—stoichiometry. Volumetric methods—titrations with permanganate, dichromate, ceric, and cerous ions. Precipitation and complex-forming

titrations. Oxidation-reduction reactions and self-indicator determinations. Procedures used in gravimetric analysis. Preparation and properties of precipitates. Chemical analysis. Some physical methods of chemical analysis. Index.

Note: A substantial introductory text in which the accuracy for learning to think in terms of mass and equivalents, understanding the basis of quantitative analytical techniques, and learning the techniques of careful measurement are stressed. Directions for limited number of laboratory exercises in quantitative determinations are interspersed throughout the book. However, much less space is given to such exercises than in some introductory texts in the subject. The authors are both associate professors of chemistry in Yale University.

RANDALL, HARRISON McALLISTER, AND OTHERS

Infrared determination of organic structures by H. M. Randall, R. G. Fowler, Nelson Fuson and J. R. Dangi. New York D. Van Nostrand Company Inc. 1949. 239 p. illus. 29 cm. \$12.75 374

Contents: The application of infrared spectroscopy to chemical analysis. Interpretation of specific structural groups and methods for recognition of these groups. A catalogue of empirical structural assignments for the double-bond region. A structural assignment catalogue for theoretically analyzed materials. Applications of the infrared method in practice. Instruments and experimental techniques. Spectra of various compounds. Index.

Note: Important contributions to the applications of infrared spectroscopy in chemical analysis and to the spectra of specific compounds are presented in this work. The tables of empirical structural assignments in this chapter also are new spectrographs are included for 313 compounds, most of which are complex hydrocarbons.

RIEMAN, WILLIAM III, AND OTHERS

Quantitative analysis a theoretical approach. Third edition. By William Riemann, Jacob D. Neuss and Barnett Naiman. New York McGraw-Hill Book Company, Inc. 1951. 523 p. illus. 24 cm. (International chemical series, Louis P. Hammett, consulting editor) \$5.50 375

Contents (abridged): Common apparatus and operations. Fundamentals of volumetric analysis. Permeometric measurements. Properties of acids, bases, and salts. Acidimetry and alkalimetry. Theory of indicators. Determination of iron in an ore. Laboratory. Gravimetric determination of aluminum. Coprecipitation. Determination of chloride. Determination of sulfur. Determination of composition. Photometric methods. Determination of phosphorus. Organic reagent-determination of nickel and aluminum. Analysis of brass or bronze—electroanalysis. Ion exchange—determination of strontium. Appendix. References. Reagents and chemicals. Name index. Subject index.

Note: (1917) An established textbook for use in introductory college courses. An important feature is the interrelation of theory and laboratory analytical procedures. Other special features are the chapter on coprecipitation, the use of reagent potassium, and the treatment of leads contained as fractions of lead strength. The chapter on ion exchange has been newly added in this edition. The descriptions of certain techniques are considerably more detailed; the chapter on colorimetric methods has been enlarged, and there are other changes in other parts of the text. The list of references has been revised.

SANDELL ERNEST BIRGER

Colorimetric determination of traces of metals. Second edition revised and enlarged. New York Interscience Publishers, Inc. 1950. 673 p. illus. 23 cm. (Chemical analysis a series of monographs on analytical chemistry and its applications editors Beverly L. Clarke and I. M. Kolthoff Vol. III) \$9.75 376

Contents: General part. Colorimetric trace analysis. Trace analysis. Methods for the separation and isolation of traces of substances.

Colorimetry and spectrophotometry in trace analysis. General colorimetric reagents. Special part. Procedures for the determination of traces of metals: Aluminums, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chlorine, Chromium, Cobalt, Columbium and tantalum, Copper, Gallium, Germanium, Gold, Iodine, Lithium, Iron, Lead, Lithium, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Osmium, Potassium, Platinum, Selenium, Silver, Sodium, Strontium, Sulfur, Tellurium, Vanadium, Zinc, Zirconium. Appendix. Author Index. Subject Index.

Notes: (1935) This volume presents a collection of modern methods for the colorimetric determination of traces of elements, especially of metals. Described under the names of the elements chosen are limited number of methods which in the author's experience have proved best for dealing with traces of the respective elements. The book is addressed to graduate chemists. The second edition is essentially equal in size to the original edition. Many new procedures are described.

SIGGIA SIDNEY

Quantitative organic analysis via functional groups. New York John Wiley & Sons, Inc. 1949 152 p. illus. 22 cm. \$3.50 377

Contents: Hydroxyl groups. Carbonyl groups. Carboxylic acids, alcohols, ethers, esters. Alkyl and allyl groups. Diamines. Active hydrogen compounds and compounds which react with Organic reagents. Acetylenic hydrogens. Acetal, ketal-type compounds, and vinyl alkyl ethers. Amino groups. Hydrocarbons. Diamine salts. Thioamide chloride selection ($-\text{NH}-\text{C}(=\text{S})-\text{NH}-$). Manganese groups. Diethyl sulfides. Alkyl disulfides. Sulfonic acids and salts. Peroxides. Lactams and lactides. Vinyl ethers. Oxidation systems (specific compounds). Water in organic compounds. Miscellaneous procedures. Qualitative separation of compounds in solutions. Some instrumental methods applicable to quantitative analysis. Weighing of volatile or corrosive liquids. Index.

Notes: Analytical methods described in this manual are based upon the use of functional groups on the molecule for the determination of unknown organic compounds in contrast to the more usual method of analysis for the elements present in the unknown. One or more methods are described for determination of each of the common functional groups or linkages, such as carbon-to-carbon unsaturation. Each method is fully described with complete laboratory procedures. The descriptions of the procedures are followed by several chapters in which other techniques such as instrumental methods are discussed. The book is intended for advanced students and analytical chemists already at work in laboratories and industry.

SNELL, FOSTER DEE, and CORNELIA T SNELL

Colorimetric methods of analysis including some turbidimetric and nephelometric methods. Volume II, Inorganic. Third edition. New York D Van Nostrand Company Inc. 1949 932 p. illus. 24 cm. \$12.50 378

Notes: (932a, 314*) The standard reference manual of this subject. In this volume there are 64 chapters ranging from lead to zirconium, each chapter being devoted to a single element or substance or (in few instances) group of substances. The chapters are comprehensive in content, accurate descriptions of analytical procedures applicable to various kinds of samples. For example, the chapter on copper includes the analysis by colorimetric methods for this element of such products as soil, water, natural organic, milk, plant tissue, glass, fruit, spray residues, and lubricating oil. References to the international literature are furnished as the basis of footnotes. The preceding edition of this volume was published in 1937. As might be expected in view of the rapid development of the field, this edition represents very extensive revision in which majority of the procedures described are not to be found in the 1937 edition.

STYERMARK AL

Quantitative organic microanalysis. Philadelphia The Blakiston Company 1951 389 p. illus. 23 cm. \$7.00 379

Contents: (abridged) Weighing on the microchemical balance. Preparation of samples for analysis. The determination of metals by the melting technique. Determination of nitrogen by the micro-Dumas method. The microdetermination of carbon and hydrogen. Standard solutions. Microdetermination of chlorine by the Kjeldahl method. Determination of sulfur. Determination of halogens. Determination

of phosphorus. Determination of arsenic. Determination of oxygen. Determination of the neutralization equivalent (determination of acids, hydrocarbons, carboxylic groups). Determination of alkyl groups (methyl and ethyl). Determination of acetyl groups. Determination of carbonyl groups. The Van Slyke manometric apparatus. Massometric carbon determination. Massometric determination of primary amine nitrogen by aliphatic α -amino acids. Determination of molecular weight. Determination of some physical constants. Calculations. Author Index. Subject Index.

Notes: The author of this work is Head of the Microchemical Department of Hofmann-La Roche, Inc., Nutley New Jersey. The order in which the chapters are presented is the same order in which microchemical techniques and procedures have been taught over a period of eight years to new members of his department. The publication is accordingly for the beginning microanalyst who is graduate in chemistry. It is also of interest to experienced microanalysts. The methods and equipment are described in detail; in some cases alternative methods are also given. The bibliographical citations at the ends of the chapters are extensive.

WALTON, HAROLD FREDERIC

Principles & methods of chemical analysis. New York Prentice-Hall Inc. 1952 435 p. illus. 22 cm. \$8.65 380

Contents: Introduction. The physical properties of precipitates. Imperfections in precipitates. The drying and ignition of precipitates. Electrolytic methods of analysis. Organic procedures. Chapter I on analytical chemistry has chapters on methods in analytical chemistry. Separation by precipitation and extractions. Volumetric analysis—Introduction. Oxidation-reduction potentials. Methods of potentiometric titration. Acid-base titration. Acid-base indicators. Oxidation-reduction titration. Volumetric redox-titration methods to separate chemistry. Oxidation-reduction indicators. Precipitation titration. Complex-forming titration. Complexometric titration. Appendix: Bibliography of selected facts. Selected methods for determination of the elements. Tables of data. Answers to problems. Index.

Notes: An advanced survey in which the emphasis is on basic methods. However there are also many details and special points derived from experience which will be helpful to analytical chemists. The book is valuable also for the discussion of special problems in analysis, for example, the titration of fluorides. Instrumental methods of analysis are not covered, but much of the material presented is basic to the intelligent use of analytical instruments. Abundant literature references are supplied as footnotes and in the second appendix. The latter features make the book useful reference tool for graduate chemists.

WILLARD HOBART HURD and OTHERS

Instrumental methods of analysis. By Hobart H. Willard, Lynne L. Merritt, Jr., and John A. Dean. Second edition. New York D Van Nostrand Company Inc., 1951 344 p. illus. 29 cm. \$5.50 381

Contents: Visual colorimeters. Fundamental laws of colorimetry. Photoelectric colorimeters and fluorescence meters. Turbidimeters and nephelometers. Spectrophotometry and flame photometry. Spectroscopy. X-ray diffraction methods. Radioactivity. The ultraviolet and infrared. Potentiometry. Thermal conductivities and other methods for the analysis of gases. Mass spectrometry. The nephelometer. Determination of the pH of solution. Potentiometric titration methods. Conductance methods. Electroanalysis. Radiography. Anomalous titration methods. Miscellaneous methods. Chromatographic analysis. Appendix. Index.

Notes: (319*) An introductory textbook designed primarily for use in college courses offered to advanced undergraduate students. Each class of instrument is described as to purpose, method of operation, advantages and disadvantages in practical chemical analysis. However the book is not a handbook on all commercially available instruments. The first edition appeared in 1948. About 100 pages have been added in the present edition. Chapters covered over have been revised and extended and the chapters on potentiometry, ultraviolet methods, and chromatographic analysis have been added.

ORGANIC CHEMISTRY

ADVANCES IN CARBOHYDRATE CHEMISTRY Volumes 6 Edited by Claude S Hudson and Sidney M. Cantor New York Academic Press Inc. 1951 442 p. 24 cm. \$8.50 382

to call attention to the chemistry of the other hydrocarbons, especially those found in petroleum. Since 1922 much more has been published on the macromolecular hydrocarbons, but this book still holds its place as well-organized and useful monograph. Much material, including new chapters on acetylenic compounds, the dimer, trimer, polymer, and thermal decomposition of paraffins, has been added in this edition. In effect the entire work has been rewritten.

BURK ROBERT EMMETT, AND OLIVER GRUMMITT editors

High molecular weight organic compounds. New York Interscience Publishers Inc., 1949 330 p. illus. 24 cm. (Frontiers in chemistry Published under the auspices of Western Reserve University Vol. vi) \$6.00 389

Contents: Polymerization in suspensions and emulsions, by W. F. Hulse and H. Mark. Geometry and viscosity of polymer solutions, by W. J. Riedley and H. Mark. The nature of dendrograms, by H. L. Fisher. Aspects of the structure and reactions of proteins, by J. T. Edsall. Condensation polymerization and crosslinking of condensation polymers, by P. J. Flory. Physical and chemical structure of phenoplasts, by T. S. Corwell. Subject Index.

Note: A collection of short monographs which were originally presented as lectures under the auspices of Western Reserve University. Most of the authors emphasize recent developments but also include enough of older events to give fair picture of the current state of knowledge pertaining to the specific topic of the lecture. Oups in the knowledge also are indicated. The level of presentation assumes an advanced knowledge of chemical terminology and concepts, hence the volume is intended for chemical graduates rather than beginners in organic chemistry. Long bibliographies are included.

CONANT JAMES BRYANT, AND ALBERT HANOLD BLATT

The chemistry of organic compounds a year's course in organic chemistry Fourth edition. New York The Macmillan Company 1952 655 p. illus. 24 cm. \$5.90. 390

Contents (abridged): The alcohols. Alkyl halides and ethers. Saturated or paraffin hydrocarbons. Olefins and rubber. Aldehydes and ketones. Organic acids. Derivatives of ammonia. Polyhydric alcohols—fats and oils. Diabetic acids—condensation polymerization. Optical isomerism. The carbohydrates. Unsaturated alcohols, aldehydes, and carboxylic compounds. The carbon acids and peroxides. Benzene and the allylbenzenes. Aryl halides, nitroalkanes, aldehydes, and phenols. Aromatic nitro compounds, amines, diamines, azides, and azo dyes. Diamines, polyhydrazide compounds, and azobenzene. Aromatic acids. Naphthalene derivatives, and pharmaceuticals. Alkylidene compounds. Natural products containing alkylidene, diene, heterocyclic compounds. Natural and synthetic drugs. Index.

Note: (AN*) A standard textbook for use in introductory college courses in organic chemistry. It is shorter than most texts of the kind but the material has been selected and treated so that the student is afforded an adequate basis account of the organic reactions and compounds. The authors have not attempted to describe large numbers of reactions and compounds.

CONANT JAMES BRYANT AND ALBERT HANOLD BLATT

Fundamentals of organic chemistry a brief course for students concerned with biology medicine agriculture, and industry New York The Macmillan Company 1950 413 p. illus. 22 cm. \$4.25 391

Contents: The alcohols. Alkyl halides and ethers. Saturated or paraffin hydrocarbons. Unsaturated hydrocarbons. Olefins and rubber. Aldehydes and ketones. Organic acids. Polyhydric alcohols—fats and oils. Industrial and laboratory synthesis. Derivatives of ammonia—nitriles and amides. Acids containing two or more functional groups. Benzenebenzenes. The carbohydrates. The carbon acids and peroxides. Electromagnetic phenomena. Benzene and allylbenzenes. Aryl halides, nitroalkanes, aldehydes, and phenols. Aromatic nitro compounds, amines, diamines, azides, and azo dyes. Aromatic alcohols, aldehydes, ketones, and acids. Polyhydric aromatic compounds. Alkylidene compounds and related natural products. Heterocyclic compounds. Natural and synthetic drugs. Index.

Note. The purpose of this introductory textbook is adequately indicated in the subtitle. The book is based to some extent upon the authors' well known *Chemistry of organic compounds*, but the material has been selected to suit the needs of nonspecialists in chemistry and the treatment of many subjects is more descriptive in style.

COPENHAVER, JOHN WILLIAM, AND MAURICE H. BIGELOW

Acetylene and carbon monoxide chemistry New York Reinhold Publishing Corporation 1949 357 p. illus. 24 cm. \$11.00 392

Contents: Synthesis and reactions of acetylene at atmospheric pressure. Violytation. Ethylation. Reactions of products derived from the ethylation reaction. Cyclopolymerization. The chemistry of carbon monoxide-carbonylation and related processes. Synthesis and reactions of acetylene homologs. Explosive decomposition of acetylene—technique and evidence for handling acetylene under pressure. General bibliography of German acetylene chemistry. Index.

Note: Prior to and during World War II, extensive research in acetylene chemistry, especially in the reactions of acetylene under pressure, were made by the I. G. Farbenindustrie in Germany. The work was in charge of Dr. Julius W. Reppe. After the defeat of Germany the Allies made an attempt to induce Dr. Reppe to write out full account of his work. Although this effort was unsuccessful, the present book is based largely on the documents of Dr. Reppe and his associates. Information gathered by the Field Information Agency Technical (FIAT) and the British Intelligence Objective Sub-Committee (B.I.O.S.) also is included. The book is of interest to organic chemists generally but has special interest for chemists working in the field of polymers and for chemical engineers concerned with designing of plants in which potentially explosive reactions must be handled safely.

DESHA LUCIUS JUNIUS

Organic chemistry the chemistry of the compounds of carbon. Second edition. New York McGraw-Hill Book Company Inc., 1952 595 p. illus. 24 cm. (International chemical series, L. P. Hammett, consulting editor) \$6.50 393

Contents (abridged): The chemistry of molecules. Carbon chains, homologous unsaturation. Aromatic hydrocarbons. Organic hydroperoxides. Ethers. Carbonyl compounds. Carboxylic acids. Amines. Salts and organometallic compounds. Polyfunctional aliphatic compounds. Polyhydric alcohols and their derivatives. Benzenebenzenes. Carbohydrazides. Polyamide acids and their derivatives. Industrial acids. Amino acids and proteins. Polyfunctional aromatic compounds. Color and constitution. Heterocyclic compounds. Organic chemistry and life. Appendix. The identification of organic compounds. Index.

Note: (444) An introductory presentation for college students who are not planning to major in organic chemistry. General principles and the general characteristics of classes of compounds are emphasized. Theories and basic concepts are introduced gradually and in relation to discussions of the compounds which best illustrate them. The first edition appeared in 1934. This edition represents a very extensive revision in which little material has been carried over. The author is Professor of Chemistry in Washington and Lee University.

DREIBACH, ROBERT RICKERT

Pressure-volume-temperature relationships of organic compounds. Third edition. San dusky Ohio Handbook Publishers, Inc., 1952 303 p. 22 cm. \$10.00 394

Contents (abridged): Tables of symbols. Cox chart families and their isobaric points. How to use the tables. Tables of vapor pressure-temperature relationships. How to determine the Cox chart family to which compound belongs. Compound chemical according to their Cox chart families.

Note: A reference volume for the use of professional chemists. The heart of it is a series of tables from which the boiling points at various pressures for wide range of organic compounds can be read directly. The values given, although less accurate than those

which can be determined in careful measurements with pressure apparatus, are more accurate than can be determined in the average industrial or college laboratory. Some of the values in the tables have been derived from the precise measurements made in recent years by the American Petroleum Institute project of the National Bureau of Standards but the greater part of them have been deter-

Over the very large number of reactions of organic molecules actually known, relatively few fundamentally different transformations. The fundamental behavior patterns of organic compounds and groups and analogies and contrasts among them are constantly pointed out. The organic reactions with which the practicing organic chemist must be familiar are described compactly and clearly and in most instances are diagrammed. Bibliographical footnotes indicate the important related literature. Young chemists in industry as well as advanced students of chemistry will find the book useful.

HARTOUGH HOWARD D

Thiophene and its derivatives. With special chapters by H. P. Hochgesang and F. F. Blücke. New York Interscience Publishers, Inc., 1952 533 p 24 cm. (The chemistry of heterocyclic compounds a series of monographs Arnold Weissberger consulting editor) \$16.50 401

Contents: General discussion. Biological and pharmacological activity of thiophene and its derivatives, by F. V. Dicks. Synthesis and physical properties of thiophene and its homologs. Molecular structure and spectroscopy of thiophene and its derivatives, by F. P. Hachinger. Factors affecting substitution reactions in the thiophene nucleus. Alkylation, polymerization, hydrogenation and substitution reactions of thiophene. Heterothiophenes and hetero-*o*-thiophenes. The alkyl- and arylthiophenes. Thiophene compounds containing nitrogen in the side chain. Heterocyclothiophenes. Quaternary salts, alkyldithiophenes, and thienylalkyl ethers. Alko and hetero derivatives of thiophene. Carbonyl derivatives of thiophene. Sulfur derivatives of thiophene. Thiophene derivatives. Thiophene derivatives of thiophene. Synthesis and properties of di- and polythiophenes and arylthiophenes. Thiophenol, benzothiophene, thiophenol, thiophenol, and thiophenol derivatives. Antibiotics. Index.

Note: A monographic treatment of an important group of organic compounds. The writing is very compact, consequently many more information is included than the number of pages might indicate. There are 108 tables scattered throughout the chapters. The treatment is on a professional level. The literature published down to October 1, 1949 has been covered and is cited in footnotes. The compounds covered have, while stages of development and potential applications, and the book is an essential addition to active collections on organic chemistry.

KOSOLAPOFF GENNADY MICHAEL.

Organophosphorus compounds. New York
John Wiley & Sons, Inc., 1950 376 p 23 cm.
\$8.50. 402

Comments: Inorganic. Phosphorus and related compounds. Halophosphorus. Halophosphorus halides and phosphoryl halides. Quaternary phosphonium compounds. Tertiary phosphorus oxides, sulfoxides, and sulfones. Phosphorus phosphides. Phosphonic acids, their esters, anhydrides, and esters. Phosphates and phosphates. Phosphites, halophosphites, and their anhydrides. Compounds with phosphorus as nitrogen base. Quasi-phosphorus compounds with phosphorus as nitrogen base. Anhydrides. Iodides.

Note. A comprehensive summary of the current knowledge of an important group of organic compounds. Particular attention is paid to the properties, methods of preparation, chief reactions, and uses, especially ones in the chemical laboratory. Literature references are given extensively. The work is essentially a reference book.

LOWY ALEXANDER, AND BENJAMIN HARROW

An Introduction to organic chemistry. Seventh edition. Revised by Benjamin Harrow and Percy M. Apfelbaum. New York: John Wiley & Sons Inc., 1951. 480 p. illus. 22 cm. \$5.50.

Contents (abridged) Saturated hydrocarbons: Unsaturated hydrocarbons. Alcohols. Ethers. Aldehydes and ketones. Carboxylic acids. Fats and oils, waxes, and some resins. Amines. Nucleoproteins, pyrimidines, and purines. Cyclic compounds. Aliphatic compounds. Aromatic hydrocarbons. Aromatic amines. Aromatic acids and their derivatives. Heterocyclic compounds. Synthetic polymers. Plastics and rubbers. Dyes. Toners and related substances. Alkaloids. Plant and animal pigments. Enzymes, vitamins, hormones. Miscellaneous of organic compounds. Appendix. Index.

Note (337*) A long-established text (the first edition appeared in 1924) intended principally for college students who are preparing for careers in antibiotic chemistry, pharmacology, or the biological sciences. A simpler presentation is given than in introductory texts written for students planning to major in organic chemistry. There is, however, some special emphasis on those aspects of organic chemistry which are of special interest in biochemistry. Changes in this edition are not extensive. However, recent developments in such fields as the chemistry of aliphatic compounds have been incorporated. The book is about 25 pages longer.

NOLLER CARL ROBERT

Textbook of organic chemistry Philadelphia W B Saunders Company 1951 643 p illus. 24 cm. \$5.75 404

Contents (abridged): Natural gas, petroleum and derived products. Esters of inorganic acids. Alkyl halides. Original reagents. Mechanisms of organic reactions. Structures of alkenes and alkanes. Alkynes (acetylenes). Ethers. Waxes, fats, and oils. Aldehydes and ketones. Aliphatic nitrogen compounds. Aliphatic sulfur compounds. Proteins, amino acids, and peptides. Steroids. Vitamins. Resins and isohomologs. Cell products. Halogen derivatives of organic hydrocarbons. Aromatic and heterocyclic aromatic nitrolic acids and their derivatives. Aromatic amines. Displacement acids. Phenols, cresols, and phenols and quinones. Condensed aromatic hydrocarbons and their derivatives. Heterocyclic compounds. Alkaloids. Dyes and dyestuffs. Dioxins, rubber, and synthetic rubbers. Chlorinated and fluorinated aliphatic hydrocarbons. Unsaturated alkenes. Unsaturated acids. Polycyclic aromatic acids. Keto acids. Aldehydes compounds. Organic peroxides. Antioxidants and antioxidants. Organometallic compounds. Silicon compounds. Acetylenes. Index.

Note: A textbook for introductory college courses offered to students who have completed courses in general chemistry at the college level. Understanding of reaction mechanisms is emphasized. However, the presentation is descriptive rather than mathematical. The author is Professor of Chemistry in Stanford University.

ORGANIC REACTIONS Volume v Roger Adams,
editor-in-chief New York John Wiley &
Sons Inc. 1949 446 p illus. 24 cm. \$7.50

Contents: The synthesis of acetylacetone, by T. L. Jacobs, Cymestylalanes, by E. A. Newman, The Darb-Zelinsky reaction; quinones and other crocones, by J. W. Bras and A. W. Fritts, Preparation of aromatic ketones from ketenes, by J. W. Bras and J. A. Schindler, Reaction, by A. Ren, The Friedel and Crafts reaction with aliphatic dicarboxylic acid anhydrides, by E. Kerkhof, The Ottewill-Koch reaction, by M. M. Cressman, The Leuckart reaction, by M. L. Moore, Sublimation double oxidation, by M. Rabjohn, The Hensch synthesis, by P. E. Spoor and A. R. Dabbs, The Danneberg pyrolysis after condensation, by M. S. Newman and E. J. Maravice, Index.

— Volume vi. Roger Adams, editor in chief New York John Wiley & Sons, Inc., 1951 517 p. illus 24 cm. \$3.00 406

Contents: The Strain decomposition, by W. R. Johnson and G. H. Deth. The preparation of 2,4-dichloroquinone and related compounds by the Bachmann-Napierkowski reaction, by W. M. Whaley and T. R. Goverschardt. The Michel-Sponner synthesis of tetrahydroquinolines and related compounds, by W. M. Whaley and T. R. Goverschardt. The synthesis of isocoumarins by the Pinner-Fitts reaction, by W. J. Gauder. The Oppenauer oxidation, by G. Diener. The synthesis of phosphoric and phosphoric acids by G. M. Krasnopol. The halogen-catalyzed interconversion reaction with organotin compounds, by H. H. Wiley and H. Gilman. The properties of thioesters, by H. H. Wiley and H. Gilman. The synthesis of 2,4-dichloroquinone and tetrahydroquinolines, by D. E. Wolf and G. K. Polkars. Reaction of ketone alcohols with hydrazine, by W. G. Brown. Index.

Note. (345-6*) These additional volumes in this series contain the monographs listed in the above tables of contents. The series has as its purpose the publication of monographs on the useful reactions in organic chemistry. In contrast to *Organic Syntheses*, the emphasis is on the reaction rather than on the product. Each of the monographs is a comprehensive survey of the reaction associated with its title, covering not only its nature and basic principles, but also its uses and limitations, procedures, conditions, and yields. In many instances an extensive table of data on the properties of derivatives is included. Therefore the bibliography is extensive.

ORGANIC SYNTHESIS: an annual publication of
satisfactory methods for the preparation of

Contents: Chemical affinity. Valency bonds. The study of molecular structure. Electrical species. Chemical reactivity. Unsaturation. Free radicals and their reactions. Radical-catalyzed reactions. Isolation and basic reactions. Acidity. General polarity. Substitution reactions of organic halogen compounds. Ester hydrolysis and esterification. Isomericism. Chirality. Molecular rearrangement. Reactions of conjugated systems. Aromatic compounds. Index of authors. Subject index.

Note. The present edition of this well known book on the mechanisms of organic reactions, published eight years after the third edition, contains numerous revisions in order to incorporate such changes as the concept of resonance. However the book has not been completely rewritten in the new terminology. In the words of the author "Since the essential purpose is in the interpretation of experimental facts we shall make use of whichever conceptual model appears to be the most helpful in attaining clarity in the discussion of each group of experimental data. The book is of interest to advanced students of organic chemistry and to teachers of the subject.

WERTHEIM, EDGAR

Textbook of organic chemistry Third edition. Philadelphia: The Blakiston Company 1951 958 p. illus. (part col'd) 23 cm. \$5.00

415

Contents (abridged): Part I. Aliphatic compounds: The methane series of hydrocarbons. Unsaturated hydrocarbons. Halogen derivatives. Alcohols. Aldehydes and ketones. Monocarboxylic acids, acids, this acids. Acid derivatives. Substituted acids. Decarboxylation. Oxidation, chlorination, quaternization, etc. acid. Amines. Compounds of phosphorus, arsenic, tellurium, and selenium. Inorganic optical activity. Chelates. Part II. Aromatic compounds: Aromatic hydrocarbons. Substituted acids. Nitro compounds. Aromatic amines. Diazotization and derivatives. Aromatic alcohols, phenols. Aromatic acids. Aromatic aldehydes, ketones, and quinones. Organic and Friedel-Crafts reactions. Naphthalenes, anthracene, and related compounds. Alkyne compounds. Terephthalic compounds. Alkaloids. Dyes. Proteins. Glycosides, enzymes, hormones, vitamins, antibiotics. Identification of organic compounds. Some electronic reaction mechanisms. Appendix. Index.

Note. (1978) An established laboratory text, used in full length laboratory courses. Although the standard range of subject matter is covered, the exposition is less catalogue of compounds and properties than is some textbooks. In general the author's method has been to put physical properties such as boiling points in tables rather than in the descriptions of groups of compounds. A very good use of structural diagrams in representing reactions and relations between compounds further simplifies the presentation. The second edition appeared in 1945. Fairly substantial changes were made in preparing the third edition. The author is Professor of Organic Chemistry in the University of Arizona.

WHEELAND, GEORGE WILLARD

Advanced organic chemistry Second edition. New York: John Wiley & Sons, Inc., 1949 799 p. illus. 24 cm. \$8.50

416

Contents: Some fundamental concepts. Addition compounds. Modern concepts of acids and bases. Structural isomerism. Resonance. The configuration of carbon compounds. The stereochemistry of carbon. The configuration and stereochemistry of elements other than carbon. Stereo theory and static structures. The theory of resonance. Electrostatic effects in organic chemistry. Molecular rearrangement: the 1,2-shift (other types). Testosterone. Free radicals. Author index. Subject index.

Note. Advanced topics not covered in first-year courses in organic chemistry are discussed in this textbook for second year under graduate courses. The exposition is built upon modern structural theory. The discussion of such phenomena as electrostatic effects, free radicals, stereo theory and static structures can be read separately with profit by persons who have the requisite knowledge of elementary organic chemistry. The author has taken pains to state full structural formulas and to give clear delineation of advanced technical terms. There are numerous references to the related literature. The first edition of the book was not regularly published but was produced in a mimeographed format for use at the University of Chicago.

WHITMORE, FRANK CLIFFORD

Organic chemistry With assistance of a committee of colleagues. Second edition. New York: D. Van Nostrand Company Inc. 1951 1005 p. illus. 24 cm. \$12.00

417

Contents (abridged): Aliphatic compounds. Alkyne compounds. Aromatic compounds. Heterocyclic compounds. Organophosphorus and organosulfur compounds. Index.

Note. (1940) A standard American college textbook of the general-organic type. Practically all of the important organic reactions are described briefly and all of the compounds mentioned in the text are brought out in the 139 page index. Footnotes and literature references throughout the work serve to guide the reader to fuller treatment of the specific reactions that are of interest. The first edition, published in 1937, was reprinted six times. The present edition, prepared from manuscript left incomplete upon the author's death in 1947 contains a number of useful revisions, among which are completely new index, fuller literature references, and numerous revisions in the treatment of the aliphatic compounds.

POLYMERS AND POLYMERIZATION

BOUNDY, RAY H., AND OTHERS

Styrene its polymers copolymers and derivatives. Edited by Ray H. Boundy Raymond F. Boyer and Sylvia M. Stoesser editorial assistant. New York: Reinhold Publishing Corporation 1952 1304 p. illus. 23 cm. (American Chemical Society monograph series No. 115) \$20.00

418

Contents: Introduction, by A. J. Welch. History, by R. H. Boundy and S. M. Stoesser. Manufacture of styrene monomer, by J. E. Marshall. Physical properties of styrene monomer, by D. R. Stull. The chemistry of styrene monomer, by G. H. Colman. Analysis of styrene monomer, by L. M. Lutz. Handling styrene monomer, by L. E. Lynch. The polymerization of styrene, by L. C. Reuter and R. F. Boyer. Summary of uses for styrene monomer, by R. F. Boyer. Molecular weight and solubility of polystyrene, by R. F. Boyer and E. E. Smith. The general physical properties of polystyrene, by J. L. Williams and K. J. Chiriac. Optical and electrical properties of polystyrene, by L. A. Matheson and J. L. Szwarc. Rheological properties of polystyrene, by E. E. Szwarc. The degradation of polystyrene, by E. E. Szwarc. Chemical alterations of styrene polymers, by G. D. Jones. *o*-methylstyrene, by J. L. Ames and others. Diethylstyrenes and diethylstyrene isomers and their copolymers, by J. L. Ames and others. Heterocyclic and other vinyl aromatic compounds, by J. L. Ames and J. W. Evans. Styrene emulsions, by G. A. Olson. A survey of styrene and polystyrene in Germany, by W. C. Goppel. Copolymerization, by R. Smith and L. A. Wall. A survey of patent literature on styrene copolymers, by W. J. Leffner. Fabrication of polystyrene, by W. C. Goppel. Author index. Subject index.

Note. A comprehensive work in which the very extensive literature of the subject together with unpublished information in possession of the editors and authors is expertly digested and organized. The literature bibliography appears to have been fully covered through 1950 and there are some references to 1951 publications. A full scale presentation of the scientific knowledge can be expected in this series; this book contains also much explicit information on the fabrication of polystyrene and other plastic materials based on the styrene. It is a fundamental book in both the literature of polymers and that of the plastic materials.

D'ALELIO, GASTANO FRANCIS

Fundamental principles of polymerization rubbers, plastics, and fibers. New York: John Wiley & Sons, Inc., 1952 517 p. illus. 24 cm. \$10.00

419

Contents: Polymers—rubbers, plastics, and fibers. Polymerization reactions and mechanisms. The addition of monomers. The non-homogeneity of polymers and their properties. Polymerization processes. Molecular weight determination. Kinetics of polymerization. Reaction and in polymerization systems. Copolymer compositions and stability of polymers. Author index. Subject index.

Note. A very wide range of information is presented in this book and so many papers are cited that the author looks more to the chemist. Nevertheless, the author has been very selective in choosing the material and has not attempted a comprehensive monograph. The book provides in the title indicates the basic knowledge of polymerization and in addition covers basically the development of important theories, etc. It is intended to such readers as graduate students and chemical engineers. The author is Manager of Research for the Koppers Company Inc.

MARK, HERMANN FRANZ, and A. V. TOBOLSKY

Physical chemistry of high polymeric systems. Second completely revised and augmented edition New York Interscience Publishers Inc. New York 1950 506 p illus. 24 cm. (High polymers. A series of monographs on the chemistry, physics and technology of high polymeric substances. Editorial board H. Mark C. S. Marvel, H. W. Melville, G. S. Whitby Vol. II) \$6.50 420

Contents: Geometry of molecules as revealed by diffraction methods. Behavior of molecules in electric and magnetic fields. Molecular spectra. Primary and secondary valences. Crystal structure and crystal forces. Crystal structure and crystal symmetry. Liquids, solutions and the amorphous crystalline character of polymers. Thermodynamics of solutions. Kinematics of liquids and solutions—viscosity—diffusion—and ultracentrifugation. Mechanical behavior of high polymers. Step reaction polymerization. Chain reaction polymerization. Degradation of high polymers. Author Index. Subject Index.

Note: (1974) A revision of a well known work on the physical chemistry of macromolecules. As in the first edition, the book is concerned with the molecular structure and properties of high polymers as groups, rather than of individual compounds. Also, emphasis is placed on the results obtained from experimental methods rather than on the methods themselves. This edition has been revised and enlarged to include developments since 1940 particularly those relating to the thermodynamic and kinematic behavior of polymer solutions and the kinetics of polymer formation. New chapters have also been added on molecular spectra and step reaction polymerization.

PHYSICAL CHEMISTRY

ADVANCES IN CATALYSIS AND RELATED SUBJECTS Volume IV Edited by W. G. Frankenburg E. K. Rideal and V. I. Komarewsky Editorial board P. H. Emmett and H. S. Taylor New York Academic Press Inc., 1952 457 p illus 24 cm. \$9.50 421

Contents: Chemical concepts of catalytic cracking, by R. C. Hanson. Decomposition of hydrogen peroxide by catalysts in homogeneous aqueous solution, by J. H. Baxendale. Structure and adsorption properties of cracking catalysts and related materials, by R. E. Bliss. Acid base catalysis and molecular structure, by R. P. Bell. Theory of physical adsorption, by T. L. Hill. The role of surface heterogeneity in adsorption, by E. D. Bailey. Twenty-five years of synthesis of gasoline by catalytic conversion of carbon monoxide and hydrogen, by H. Pickett. The free radical mechanism in the reactions of hydrogen peroxide, by J. Weiss. The specific reactions of base in some homopolymerizations, by P. George. Author Index. Subject Index.

Note: (1977) A volume of original monographic surveys in which the emphasis is on recent developments. The level of treatment is the same as in previous volumes in the series. In other words, the writing is addressed primarily to graduate chemists interested in keeping abreast of developments in the field of catalysis.

AMIS, EDWARD STEPHEN

Kinetics of chemical change in solution. New York The Macmillan Company 1949 332 p illus. 22 cm. \$5.25 422

Contents: Introduction. The Debye-Hückel theory. Liquid dielectrics and polar moments. The Brønsted-Christiansen-Sørensen equation. The temperature coefficient of reaction rates; energy of activation. The temperature coefficient of reaction rates; the Arrhenius frequency factor. Semiquantitative calculations of activation energies. The theory of absolute reaction rates. Reactions between diatomic molecules and between diatomic molecules and diatomic molecules. Reaction rates and the solvent. Photochemical chain reactions. Homogeneous catalysis. Adsorption, heterogeneous catalysis, and heterogeneous reactions. Index.

Note: A concise yet thorough presentation of the fundamental principles of rate processes in solution, and such related topics as the activity coefficients of ions, polar moments in solution, and dielectric constants of liquids. The book is written for advanced

chemistry students, and the mathematical calculations involved in the development of kinetic and rate equations require sound knowledge of differential and integral calculus. Emphasis is placed on the theoretical aspects of the subject, but practical applications of solution processes are briefly discussed.

ANNUAL REVIEW OF PHYSICAL CHEMISTRY Volume 3 G. K. Rollefson editor R. E. Powell, associate editor Stanford Calif. Annual Reviews Inc., 1952 416 p 23 cm. \$6.00 423

Contents: Quantum theory of molecular structure and spectra, by C. A. Coulson. Radioactivity and nuclear theory by M. G. Mayer. Isotopes, by J. H. Ekin. Radiation chemistry by A. O. Allen. Polymeric electrolytes, by P. Doty and G. Eirich. Ion exchange, by W. C. Crampton and others. Thermodynamics and the thermodynamic properties of substances, by R. F. Neuman. Bond energies and bond distances, by G. Glockler. Heterogeneous equilibria and phase diagrams, by C. J. Christensen and K. Keizer. Photochemistry, by O. K. Rieckhoff. Thermodynamics, by M. G. Evans. Spectroscopy, by M. J. R. Cantow. Polymerization and the photochemical process, by C. Tanford and E. W. Fischer. Solutions of electrolytes, by G. Scatchard. Solubilities of electrolytes, by T. F. Young and A. C. Jones. Reaction kinetics, by R. E. Powell. Theory of ionic crystals, semiconductors, and dielectrics, by F. E. Williams. Experimental crystallography, by W. H. Zachariasen. Experimental molecular structure, by L. G. Brockway. Index.

Note: Papers authored and listed as above are contained in the third volume of series which serves both as a summary of recent developments and guide to the recent literature. The papers are concisely written and are keyed to bibliographies which run in some instances to several hundred references. A detailed subject index covers all of the papers and an author index lists the names of authors of the cited literature.

COHEN, KARL

The theory of isotope separation as applied to the large-scale production of U^{235} . Edited by G. M. Murphy New York McGraw Hill Book Company, Inc. 1951 165 p illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division III—Vol. 1B) \$2.50 424

Contents: Ideal cascades. Square cascades. Equilibrium time of square cascades. Determination of cascade constants. The control problem. Counting. Other separation methods. Appendix: Roots of transcendental equations. Equilibrium time of square cascades for $N=1$. The halving function. Rayleigh distillation. Properties of concurrent two-phase elements. Index.

Note: This volume is based on reports of the Seabrook Alloy Materials Laboratory (SAM) which were operated by Columbia University from 1940 to 1945 as part of the development program on the atomic bomb. The treatment is theoretical and much of it is expressed in mathematical equations. The discussion of the various methods of isotope separation, such as centrifugation, electrolysis, chemical exchange, thermal diffusion, and distillation, are concerned with general principles rather than technical details. List of declassified reports are included in the chapters.

HARRIS, WILLIAM DRAPER

The physical chemistry of surface films. With a foreword by Peter Debye. New York Reinhold Publishing Corporation 1952 413 p illus. 24 cm. \$10.00 425

Contents: The nature and energetics of surfaces. Films on liquids. Films on solids. Properties of soap solutions. Mechanism of emulsion polymerization. The role of the electric double layer in the behavior of lyophobic colloids, by E. J. W. Verwey. Index.

Note: Even though considerable part of the contents of this work was published previously the book represents a major addition to chemical literature. The author made many original contributions to the knowledge of surface films and emulsion technology and all of his work is covered in it. Chapters one, two, and three have been expanded with modifications from various volumes of Dr. Jerome Alexander's *Colloid Chemistry*. Chapters four and five are original but contain many quotations from articles by Dr. Harris that were published elsewhere. Chapter six, by Dr. Verwey is another reprint with minor changes, from Alexander's *Colloid Chemistry*. Although the bulk of each chapter except the sixth, and original research carried out by Dr. Harris and his associates, the

partient work of others is also described, and each of the chapters is accompanied by substantial list of references. The bibliography of Harkins' own publications is arranged chronologically from 1907 to 1950.

HARNED HERBERT SPENCER, AND BENTON B OWEN

Physical chemistry of electrolytic solutions. Second edition revised and enlarged. New York Reinhold Publishing Corporation 1950 645 p. illus. 23 cm. (American Chemical Society Monograph series) \$14.00. 426

Contents (abridged) General thermodynamic introduction. Theory of thermodynamic properties of aqueous solutions. The theory of irreversible processes in electrolytic solutions. Numerical calculations of physical constants, characteristic slopes, and mathematical functions. Coulombic forces and ion associations; weak electrolytes; frequency and field effects. The calculation of activity and osmotic coefficients from freezing points, boiling points, and vapor pressures. Hydrochloric acid. Polyvalent electrolytes. Mixtures of strong electrolytes. The ionization and thermodynamic properties of weak electrolytes. Appendixes. Author index. Subject index.

Note: (1048) An authoritative treatise in which are combined full discussions of theory, experimental methods, and the behavior and properties of electrolytic solutions. In the present edition there appear to be no changes other than correction of misprints in the body of the work or in the first appendix. However, new knowledge gained since 1941 is covered in the second appendix, which is arranged so that appropriate parts can be related to the material on the same topic in the main part of the book. Also references have been added from superseded tables in the main part to their successors in the appendix.

HILDEBRAND JOEL HENRY AND ROBERT L SCOTT

The solubility of nonelectrolytes. Third edition. New York Reinhold Publishing Corporation, 1950 488 p. illus. 23 cm. (American Chemical Society monograph series William A. Hamor editor) \$12.50. 427

Contents (abridged) The ideal solution. Miscible solutions—general, intermolecular forces. The liquid state. The theory of solubility and mixing. The heat of mixing. Polarity. Hydrogen bonding. Specific interactions: "addition" and "association." Vapor pressure of binary liquid solutions. Solubility of gases in liquids. Solubility of liquids in liquids. Solubility of solids in liquids. Solid solutions. Miscible solutions. High polymer solutions. Surface phenomena. Evaluation of solubility parameters. Appendixes. Selected values of solubility parameters. Papers by the authors and co-workers. Solutions of nonelectrolytes—18-49. Author index. Subject index. Formula index.

Note: (1030) A comprehensive presentation of the development and present state of knowledge pertaining to the solubility of nonelectrolytes. It is unique in its comprehensive work to Harned and Owen's *The physical chemistry of electrolyte solutions* (see author index) published in the same series. Following the general pattern of the series the literature of the subject has been surveyed and is fully cited. The treatment is on graduate and professional level. Compared to the previous edition there are six new chapters including those on solid solutions and high polymer solutions, and there has been much reworking of the chapters called over.

LAMLER, KEITH JAMES

Chemical kinetics. New York McGraw-Hill Book Company Inc., 1950 408 p. illus. 23 cm. \$6.50 428

Contents: The measurement of reaction rates. Experimental methods. The mechanism of elementary processes. Elementary gas-phase reactions. Reactions in solution. Reactions on surfaces and in the solid state. Complex reactions. Some complex inorganic reactions. Some complex organic reactions. Catalysis. Oscillations. Polymerization. Potential-energy surface. Bibliography. Name index. Subject index.

Note: An introduction to the present knowledge of the rates of chemical reactions. It has the advantage over older books of containing recently published knowledge. In fact, references are made to literature published as recently as 1950. It is designed for use in college courses, particularly advanced courses offered to students

who are majoring in chemistry. It should find some use also as a reference or guide for graduate chemists who desire a compact summary of the current knowledge. The book contains not only bibliography but numerous footnote references to the literature.

MACDOUGALL FRANK HENRY

Physical chemistry Third edition. New York The Macmillan Company 1952 750 p. illus. 22 cm. \$6.00 429

Contents (abridged) Atomic theory. Energy and the first law of thermodynamics. The gaseous state. The liquid state. The solid state. The structure of atoms. Physical properties and molecular constitution. The second law of thermodynamics. Solutions. Thermodynamic heterogeneous equilibrium and applications of the phase rule. Chemical kinetics. Electrical conductance. Equilibria involving ions. Electrostatic forces. Electrolysis, polarisation and overvoltage. Photochemistry. The colloidal state. Indexes.

Note: A standard textbook widely used in introductory college courses in physical chemistry. The treatment is comparatively rigorous, and the book is designed for use by students who are preparing for careers in chemistry. The previous edition appeared in 1941. In this edition the greater part of the text is unchanged, but two of the chapters have been extensively rewritten and minor changes have been made in some other parts.

MARYOTT, ARTHUR A., AND EDGAR R. SMITH

Table of dielectric constants of pure liquids. Washington, D C. Government Printing Office, 1951 44 p. 26 cm. (United States National Bureau of Standards. Circular 514) Paper \$0.30 430

Contents: Introduction. Description of table. Table of dielectric constants. Standard liquids. Inorganic liquids. Organic liquids. Bibliography.

Note: This circular contains the "static" dielectric constants of more than 800 substances in the liquid state; the tables being divided into three sections: standard liquids, inorganic liquids, and organic liquids. Reference sources are given for the liquids in the organic and organic groups, and probable accuracy of the data is indicated. The tables are reproduced from typewritten copy. The work is part of a program for critical examination of the data of physics and chemistry sponsored by the National Bureau of Standards in cooperation with the Committee on Tables of Constants and a similar Data of the National Research Council and the Commission on Tables of Constants of the International Union of Chemistry.

MOORE, WALTER JOHN

Physical chemistry New York Prentice-Hall, Inc. 1950 592 p. illus. 24 cm. (Prentice-Hall chemistry series Wendell M. Latimer editor) \$8.05 431

Contents: The description of physicochemical systems. The first law of thermodynamics. The second law of thermodynamics. Thermodynamics and chemical equilibrium. Changes of state. Solutions and phase equilibria. The kinetic theory. The structure of the atom. Nuclear chemistry and physics. Periodic and atomic structure of molecules. Chemical statistics. Crystals. Liquids. Electrochemistry. Surface chemistry. Chemical kinetics. Index.

Note: A text for introductory courses offered to college students who have completed basic courses in both physics and chemistry. The treatment is rigorous, but the author has taken pains to make things clear. Parts of the book, for instance the chapter on surface chemistry are written so that they can be comprehended about the aid of an instructor. The lists of references included as guides for further reading include both books and articles. The author is Associate Professor of Chemistry at the Catholic University of America.

PAUL MARTIN AMBROSE

Principles of chemical thermodynamics. New York McGraw-Hill Book Company Inc., 1951 740 p. 24 cm. (International chemical series, Louis P. Hammett, consulting editor) \$8.00 432

Contents. Temperature. The first law of thermodynamics. Thermal behavior of simple systems. Thermochemistry. The second law of thermodynamics. Thermodynamic behavior of simple systems. Thermodynamic behavior of solutions and heterogeneous systems. Chemical equilibrium. Thermodynamics of gaseous cells. Statistical molecular theory of thermodynamics. Appendix. Answers to problems. Index.

Note. The substantial textbook is designed for the use of advanced undergraduates and graduate college students who are specializing in chemistry and have completed an introductory course in physical chemistry. Due attention is given to the theoretical basis of chemical thermodynamics, and the derivations of commonly used equations are always shown. The ninety-page discussion of the statistical molecular theory of thermodynamics is a special feature. Mathematical techniques more advanced than those of elementary calculus are explained in the text where they are introduced and in special appendices.

PRUTTON CARL FREDERIC, AND SAMUEL H. MARON

Fundamental principles of physical chemistry Revised edition. New York: The Macmillan Company 1951 803 p. illus. 22 cm. \$6.00 433

Contents (abridged). Elementary principles of thermodynamics and their application to gases. Liquids. The solid state. Solutions. Colligative properties of solutions of nonelectrolytes. Solutions of electrolytes. Surface phenomena and colloids. Thermochemistry. Kinetics and the third law of thermodynamics. The free energy. Heterogeneous chemical equilibrium. Heterogeneous equilibrium. Electrolytic transference and conductance. Ionic equilibria. The electrochemical series of cells. Electrolysis and polarization. Kinetics of homogeneous reactions. Kinetics of heterogeneous gas reactions. Physical properties and the structure of molecules. Photochemistry. Index.

Note. (1014) A somewhat more advanced presentation is given than is customary in introductory texts in the subject. Thermodynamic principles are introduced in the second chapter and are used throughout the book. Although designed for full-year courses offered to students majoring in chemistry and chemical engineering, the authors suggest it is also for such students as physicists and biologists. It will take only an introductory course. Completion of college courses in physics, basic chemistry and calculus are prerequisites. In the present edition the chapter on photochemistry is now deleted and there is far more of other changes. The new author is an officer of the Macmillan Chemical Corporation and the second member of the faculty of Case Institute of Technology.

QUILL LAURENCE LARKIN editor

The chemistry and metallurgy of miscellaneous materials thermodynamics New York: McGraw-Hill Book Company Inc. 1950 329 p. illus. 24 cm. (National nuclear energy series Manhattan Project technical section Division IV—Plutonium project record. Volume 19B) \$4.50 434

Contents. Paper I. Investigations in the liquid-solid equilibria of the two component systems composed of the bromides and iodides of strontium and barium, by K. H. Eastman and others. Temperature-composition diagrams of metal-metal halide systems, by K. H. Eastman and others. The thermodynamic and physical properties of the elements, by L. Brewer. Thermodynamic and physical properties of alcohols, carbides, sulfides, aldehydes, and phosphates, by L. Brewer and others. The thermodynamic properties of common gases, by L. Brewer. The thermodynamic properties of the halides, by L. Brewer and others. The fusion and vaporization data of the halides, by L. Brewer. The thermodynamic properties of metaloxides and tungsten halides and the use of these metals as refrigerants, by L. Brewer and others. The heats of formation of CaF_2 , CaS , and CaO at 25° C, by M. W. Kuntz. The heat of reaction of the carboxylic couple in 0.5 molar perchloric acid at 25° C, by R. J. Fieser.

Note. The report back from the hands of this volume was prepared during the course of research conducted to develop methods for predicting phenomena. The book brings together a great quantity of data regarding the thermodynamic and physical properties of gases and compounds used in high temperature reactions, and is designed for the use of physicists and chemists engaged in this field of research. Each paper includes a brief summary and list of references. No index is provided.

RICCI, JOHN ETTORE

Hydrogen ion concentration: new concepts in a systematic treatment. Princeton New Jersey: Princeton University Press, 1952 460 p. illus. 24 cm. \$10.00 435

Contents. Definitions and fundamental relations. The theories of ionic solutions. Special values and limits of the dissociation fractions for acids and bases. Limits of ionization fractions and the isoelectric point for acids and ampholytes. Application of the exact equations for the determination of the constants. Interpretations of ionization constants. Some direct applications of the general equations as relations of the concentrations. Calculation of the osmotic value of H^+ from the general equations. Titrability (average) of bases; exact case (strong acid and strong base) (pH). Problems involving one ionization constant. Two weak acids and strong base. Three (one strong acid and strong acid) in substance involving any number of independent ionization constants. Three weak acid and weak base. Problems involving two independent ionization constants (aliphatic acids). Acids with strong and weak bases; ampholytes. Some complex cases. Triprotic acids; acids with strong and weak bases. Saturation with respect to acids and bases. Free saturated aqueous solutions of salts. Saturated with salts of monobasic acid. Saturation with salts of dibasic acid. Saturation with ampholytes and their salts. Index.

Note. In the words of the author of this original study: "The quantitative relations determining the hydrogen ion concentration of aqueous solutions constitute purely mathematical problems subject to exact and systematic treatment and capable of simple and reliable presentation. In the book exact mathematical definitions which are independent of the various theories of the mechanism of ionization are stated, then on the basis of these definitions formulas are derived for calculations pertaining to hydrogen ion concentrations in aqueous solutions of various degrees of complexity. The book is an important contribution to theoretical chemistry."

RICCI JOHN ETTORE

The phase rule and heterogeneous equilibrium. New York: D. Van Nostrand Company Inc. 1951 505 p. illus. 24 cm. \$12.00. 436

Contents (abridged). One-component systems. Binary systems with complete miscibility in all states. Complete immiscibility in the solid state. Polymorphism of the components and peritectic behavior. Binary compounds. Systems with two liquid phases. Condensed binary diagrams and their determination. Ternary systems. Transitions involving pure solid phases. Freezing point equilibria involving two or three liquid phases. Reciprocal ternary systems. Quaternary systems (additive type). Quaternary systems of water and reciprocal salt pairs. Aqueous quaternary systems. General references. Index of species cited. Name index. Subject index.

Note. A thorough and rather original introduction to the application of the phase rule, first stated by Gibbs in 1874, and now recognized as one of the basic laws of chemical systems. It is written on the graduate level. Though specific data for variety of systems are given, the work is not intended as a reference book of data on equilibria in specific systems. Papers from which examples are drawn are cited in footnotes throughout the work, in addition to the selected list of books at the end.

ROSSINI FREDERICK DOMINIC

Chemical thermodynamics. New York: John Wiley & Sons Inc. 1950 514 p. illus. 21 cm. \$6.50 437

Contents (abridged). Definition of terms. Fundamental constants and conversion factors. Energy and the first law of thermodynamics. Equivalence of mass and energy. Entropy and the second law of thermodynamics. Entropy and thermodynamic engines. Heat capacity of substances. Relations among the thermodynamic properties and functions. Heats and energies of reactions and processes. Thermodynamic functions from statistical calculations. Entropy and the third law of thermodynamics. Equilibrium between different phases of one pure substance. Family-standard states. The ideal solution. The dilute and solution. Electrochemical cells and free energy. Equilibria between different phases of two or more components. Special applications of thermodynamics. Thermodynamic calculations. Appendix. Author index. Subject index.

Note. A fully comprehensive presentation of modern chemical thermodynamics. Fundamental concepts of atomic physics such as energy levels and wave optics are introduced early in the book and provide the discussion of the third law. The pleasure use of the book is in

text in college courses, but it has some usefulness as a survey for graduate chemists. Literature references accompany the chapters, and in addition there is a concluding chapter on the periodical and book literature in which data required for calculations of chemical thermodynamic data can be found.

ROSSINI, FREDERICK DOMINIC, AND OTHERS

Selected values of chemical thermodynamic properties by Frederick D. Rossini, Donald D. Wagman, William H. Evans, Samuel Levine, and Irving Jaffe. Washington D. C. Government Printing Office, 1952. 1268 p. illus. 27 cm. (United States National Bureau of Standards. Circular 500) \$7.25 438

Contents: Introduction. Tables of selected values of properties of Series C: Heat of formation at 25° C; Free energy of formation at 25° C; Entropy at 25° C; Heat capacity at 25° C; Logarithm of the equilibrium constant of formation at 25° C; Heat of formation at 0° K. Tables of selected values of properties of Series III: Heat, temperature, and entropy of transition, fusion, and vaporization (including values of pressure). Specific references for the tables of properties of Series I. Specific references for the tables of properties of Series II. General list of references. Index.

Note: A much expanded set of tables compiled for chemists and engineers by the National Bureau of Standards from 1940 to 1950. They take the place of the tables appearing in *The thermodynamic properties of the chemical elements* by F. R. Bickel and F. D. Rossini, New York, 1944, and many were previously available in handbooks. The volume contains values of the heat and free energy of formation, entropy, heat capacity and heats and temperatures of transition, fusion, and vaporization for all inorganic compounds (containing not more than two carbon atoms) where such data are available. Separate tables give references to the original literature from which the values were derived. Additional material is included here to supplement the data in this circular and to give thermodynamic properties as a function of temperature are being prepared under the direction of Donald D. Wagman, and are available to interested persons upon request.

SEIDELL, ATHERTON AND WILLIAM F. LINKE

Solubilities of inorganic and organic compounds, a compilation of solubility data from the periodical literature. By Atherton Seidell and William F. Linke, with sections by Alfred W. Francis and Roger G. Bates. Supplement to the third edition containing data published during the years 1939-1949 inclusive. New York D. Van Nostrand Company 1952. 1254 p. illus. 24 cm. \$12.50 439

Note. (1011) The third edition of this standard reference book for chemical libraries and laboratories was published in two volumes in 1940 and 1941. The arrangement of the supplement is similar to that of the main volumes. There are two main subdivisions and under each the compounds are arranged in alphabetical order. Under each compound there is (1) short discussion of the published work bearing on its solubility and (2) tabulation of the available solubility data in various solvents. In addition there is a brief section of data on ternary systems appearing in two liquid layers and a supplementary chapter "Recent contributions to the theory of electrolyte solubility" by Roger G. Bates. An author index arranged so as to serve also as a bibliography of cited papers, an organic compound index, and an inorganic and metal-organic cross-reference index are included.

STANDING COMMITTEE ON COMBUSTION SYMPOSIA

Third symposium on combustion and flame and explosion phenomena. Published under the auspices of the Standing Committee on Combustion Symposia, Bernard Lewis chairman. Baltimore The Williams & Wilkins Company 1949. 748 p. illus. 26 cm. \$13.50. 440

Contents (abridged). Part I, Flame stabilization and quenching: The stability of open flames, by E. Weid and others. Flame stabilization and propagation in high velocity gas streams, by G. C. Williams and others. Theory of ignition, quenching, and stabilization of flames of noncombustible gas mixtures, by G. von Elbe and R. Levin. The mechanism of flashback of acetylene flames, by J. S. Foryth and J. E. Garfield. The structure and stability of diffusion flames, by D. A. Schaidler and J. L. Garfield. Part II, Flame propagation in explosion mixtures: Theory of propagation of flames—general equations—approximate solutions—numerical integrations, by J. O. Hirschfelder and others. The role of free atoms and radicals in burner flames, by C. Tansler. Interaction of flame propagation and flow disturbances, by G. H. Markstein. Factors affecting flame propagation through dust clouds, by H. M. Cappel and others. Influence of molecular structure of hydrocarbons on rate of flame propagation, by T. W. Reynolds and M. Gersht. Burning velocities in acetylene mixtures, by J. W. Linnett and M. F. Hearn. Development of combustion waves in burning gas, by R. J. Perry. Electrical properties of flames, by H. F. Calvert. Part III, Flames of fuel gas: Mixing and combustion in turbulent gas jets, by W. R. Hawthorne and others. Diffusion flames, by K. Weid and others. Part IV, Ignition of gas mixtures: The ignition of gas mixtures by inductive processes, by W. C. F. Shephard. The ignition of gaseous explosive mixtures by hot wires, by H. P. Sweet and E. Jones. Ignition of gas mixtures by electric sparks, by H. Merz. Part V, Kinetics and mechanism of combustion reactions: Processes in the vapor phase oxidation of ether by G. H. M. Chamberlain and A. D. Walsh. Some aspects of the combustion of methane at low pressures, by A. J. Eversett and G. I. Mikellid. Kinetics of abnormally compressed hydrocarbon-air mixtures, by W. Jost. The mechanism of some elementary reactions occurring in flames, by V. F. Orlik and K. J. Laidler. The determination of radical concentrations and reactivities in chemical reactions, by H. W. Melville. The oxidation of sulphur dioxide in combustion processes, by O. Wallingham. Kinetic aspects of the combustion of solid fuels, by J. E. Arthur and others. Mechanism of carbon combustion, by E. Merz and L. H. Hefner. A study of recombinative reactions of active particles produced by an electric discharge in water vapor, by J. F. Byrnes. The reaction between hydroxyl and hydrogen peroxide in the liquid phase, by A. S. Gordon. Part VI, Flame spectroscopy and radiation: Radiation studies on closed combustion chamber, by G. A. Herberich. Spectroscopic studies of low-pressure flames, by A. G. Gaydon and H. G. Weidner. Part VII, Burning and detection of explosives: The spontaneous ignition of nitrocellulose, by E. K. Riddell and A. J. R. Robertson. The thermal initiation of explosives in liquid explosives, by A. J. R. Robertson. Hot spots and the initiation of explosives, by F. P. Bowden and A. Yalla. The use of x-ray fluorescence as a solid fuel to provide gas for propulsive purposes, by J. Taylor and G. F. Schmitt. The properties of gases at high pressures which can be deduced from equation of state, by H. P. Jones. Part VIII, Thermodynamics of flame gases and thermodynamics: The theory of dissociation of O₂, by R. Ekin. The vapor pressure and heat of sublimation of carbon, by P. Oettinger. Part IX, Experimental techniques: Measurement of velocity and pressure of the gases in rocket flames by spectroscopic methods, by F. P. Bowden and H. M. Strong. The use of thermocouples in measuring exhaust gas, by R. F. Fitch and others. An interferometric method of gas analysis, by H. L. Olson. The simultaneous sampling of gases at high temperatures and pressures, by W. R. Wyckoff and others. Part X, Combustion in engines and rocket motor flames: Problems in the design of combustion chambers for liquid propellant rocket motors, by R. M. Abraham. The spontaneous combustion of fuels treated later, hot gas streams, by R. F. Millard. Factors affecting combustion stability, by R. D. Fair. Photographs at 500,000 frames per second of combustion and detonation in reciprocating engine, by T. Male. Part XI, Gas burners and heaters: The problem of gas temperature measurement above 1500° C., by R. Mayers and others. Energy transfer from flame gases to solids, by J. E. Kilham.

Note. Although there are 100 papers in this work, more than one-third of which were contributed by residents of countries other than the U. S. A. The typical paper is approximately 10 pages long and is devoted to the results of recent research or to descriptions of newly developed research techniques. It is addressed to graduate students or technologists and is supplemented by short lists of literature references. The book has an index. The proceedings of the two earlier symposia in the series were published in periodicals and did not appear as books.

TAYLOR, HUGH S., AND SAMUEL GLASSSTONE editors

A treatise on physical chemistry a co-operative effort by a group of physical chemists. Third edition—in five volumes. Volume two States of matter New York D. Van Nostrand Company Inc. 1952. 701 p. illus. 24 cm. \$12.00 441

Contents. The elastic theory of ideal gases, by K. F. Hornfield. The thermodynamics and statistical mechanics of real gases, by J. A. Beattie and W. H. Stockmayer. The liquid state, by G. E. Kimball. X-ray analysis of the solid state, by J. G. White. The colloidal state and surface chemistry, by I. W. Williams and others. Index.

Notes (1912) The second volume published of this third edition (the second edition was issued in two volumes in 1911) of which is planned as a comprehensive presentation of physical chemistry. As the table of contents indicates, the organization is that of a collection of signed monographs. Each monograph is specially written for the work and generally speaking is an up-to-date summary of its particular topic. The work is addressed primarily to students of chemistry and professional chemists.

THON, N., editor

Tables of chemical kinetics homogeneous reactions. Sponsored by the National Bureau of Standards and the Committee on Tables of Constants of the National Research Council, and Princeton University Editorial office, Frick Chemical Laboratory, Princeton University N Thon editor, D G Kelemen and G Parravano assistants G S Forbes, M. Szwarc, and H. A. Taylor corresponding expert collaborators Issued September 28 1951 Washington D C. Government Printing Office, 1951 731 p 29 cm. (United States National Bureau of Standards, Circular 510) Paper \$4.00 442

Contents: Subject Index. Alphabetical Index. Code abbreviations for periodicals. Introduction. Tables.

Notes. These tables represent critically evaluated compilations of the available factual material on rates and rate constants of homogeneous chemical reactions. Owing to the importance of experimental standardized data, the values have generally been included only as comments or verifications. Reaction mechanisms are written in the simplest possible way on the basis of the observed overall chemical changes. Each entry is designated by a Greek number the first two of which refer to the type of reaction, the third to the phase of the homogeneous reaction, namely (1) Liquid (2) or solid (3). The second three-digit group of the table number refers to the types of substances involved. Supplements to the work are released.

WETMORE, F E W AND D I LEROY

Principles of phase equilibria. New York: McCraw Hill Book Company Inc., 1951. 200 p. illus. 24 cm. (International chemical series, Louis P. Hammett, consulting editor) \$4.50

Contents: Chemical equilibria. One-component systems. Two-component systems. Two-component systems; types of equilibria involving only one phase of variable composition. Two-component systems; types of equilibria involving more than one phase of variable composition. Three-component systems. Three-component systems at fixed temperature and pressure. Three-component systems, solid diagrams and their phase projections. Four-component systems. Appendixes: The thermodynamic derivation of the phase rule. Free energy-composition curves for two-component systems. Index.

Note. A textbook planned for upper-level undergraduates and graduate students. Though considerable previous education in chemistry and physics is assumed, the book is satisfactory to the subject. The exposition is expressed in (to use the author's words) "terms of laboratory criteria and from fundamental point of view rather recently to formal thermodynamics. However the thermodynamic approach is illustrated in the exposition."

COLLOID CHEMISTRY

ALEXANDER, JEROME, editor

Colloid chemistry theoretical and applied.
Volume VII, Theory and methods biology and
medicine, technological applications. New

York Reinhold Publishing Corporation,
1950 736 p illus. 23 cm. \$18.00. 444

Contents (abridged) Part I: Theory and methods: The intermolecular complex between nucleic acid bases: by W. D. Harkness, J. Suck, and J. Drenth. 1. The hydrogen bonding between nucleic acid bases: by M. Barchi. The electronic depth of the aromatic base: by J. W. McClure and J. C. Hensler. Fluorescence in the nucleobase: by L. J. R. Hofer. The importance of colloids for colloid and trace elements, by A. Krume. Paper chromatography of nucleic acids, by R. J. Black and H. A. Sobel. Part II: Biology and medicine: Surface chemistry and biology of A. E. Alexander. Some aspects of the interaction of drugs and enzymes, by F. Bernheim. Gases and biochemical reactions, by D. M. Brown. Antibiotic colloidal electrolytes, by R. A. Hazer. The tubercle bacillus, by L. Gerschlager. Dental caries, by L. S. Pondick. Part III: Technological applications: Resin applications of carbon black aerosols, by C. A. Stokes. Organophilic clays, by K. A. Haines. Colloid aspects of the treatment, by F. H. Carstoft. Aerosol, by R. N. Thacker. The physical and chemical structure of the aerosol, by D. S. F. Kesteven. The kinetics of nucleation, by D. S. F. Kesteven. Colloids, by C. M. Reimer. Some physicochemical aspects of cigarette constituents, by H. W. Vahlschlag. Photocopying glass, by D. Stooker. Author index. Subject index.

At the same time, the papers in the series are not intended to be a substitute for the specialized knowledge of the authors. The papers are intended to be a source of information for the general public and for the specialized community. The papers are intended to be a source of information for the general public and for the specialized community. The papers are intended to be a source of information for the general public and for the specialized community.

BURK ROBERT EMMETT, AND OLIVER
GRONMITH, editors

Frontiers in colloid chemistry New York
Interscience Publishers Inc. 1950 157 p.
illus. 24 cm. (Frontiers in chemistry Pub-
lished under the auspices of Western Reserve
University Vol. viii) \$4.00 445

Contents: The role of adsorption in colloid science, by H. S. Taylor. Frontiers in chromatographic adsorption analysis, by M. R. Shuman. Ion exchange adsorption: references to synthetic resins, by R. J. Myron. Ion-exchange, by V. H. Dumas. Colloidal electrophoresis, writing agents, and detergents, by J. W. McLean. Organization of crystals and micelles of soaps—adsorption and detergency, by I. W. McBain. Subject index.

Note. The concluding volume in this series. Like the others, it contains short monographic papers, originally delivered as lectures on chemical topics of current importance. Recent developments are emphasized, but most of the authors have slanted in enough of the background to give an adequate picture of the current state. The lectures were addressed to graduate students and graduate chemists and the style, as might be expected, is technical. Literary references are included.

McBAIN, JAMES W

Colloid science. New York Reinhold Publishing Corporation, 1950 450 p Illus. 24 cm. \$8.00 446

Contents: Kinematics and force. Biophysics. The objective depth of surfaces. The preparation of colloidal solutions. Optical properties and study of colloids. Brownian movement. Ultrasonics. The hyposcopic series of ions. Viscosity, thixotropy and plasticity and dilatancy. Jellies and gels. Coagulation, protective colloids and peptization. Electrical and electrokinetic phenomena. Diffusion. Osmotic pressure and membrane equilibria. Ultrafilters and centrifuge-floccs and other colloidal devices. Solutions of proteins. Non-aqueous systems of colloids. X-ray and other methods of studying colloids and high polymers. Colloids and its derivatives. Other colloids and high polymers. Colloids and synthetic rubber. The process of vulcanization. Colloids and the globular proteins. Artificial polymers. Resins and plastics. Clay Minerals. Author Index. Chemical and cross-referenced subject Index.

Note A well-organized and interesting presentation of basic knowledge of cultural phenomena together with some discussion of its applications. Although general and introductory, the book contains enough substance to make it useful to any trained chemist in search of an introduction to the field. Each chapter is accompanied by long lists of references to such statements in the text are keyed. In addition, there are brief lists of more general works on the subject of each chapter. The author index includes the names of authors of literature cited in the references.

MARSHALL, CHARLES EDMUND

The colloid chemistry of the silicate minerals. New York: Academic Press, Inc. 1949 195 p. illus. 24 cm. (Agronomy, a series of monographs. Vol. 1.) \$5.80 447

Contents: Historical outline. Introduction to silicate structures. Solubility based on three-dimensional framework. The colloidal properties of the solution. The structure of silicates with planar frameworks. The structural interpretation of chemical analyses of the clay minerals. The sizes and shapes of clay particles. The optical properties of clay aggregates and suspensions. Adsorption by the clays and its consequences. Clay acids and their titration curves. Ionic exchange reactions of the clays. Electrokinetic properties of the clays. The mechanical properties of clay suspensions, soils and pastes. The properties of clay aggregates and films. Author index. Subject index.

Note: A monographic survey of what is known at the present time about the colloid chemistry of clays and other minerals containing major proportions of silicon. It is of interest to the ceramic industry and other industries which use clays, as well as in agriculture. The presentation stresses the basic knowledge and experimental results. The chapters are accompanied by extensive reference lists. The author is Professor of Soils in the University of Missouri, and is well known for his contributions to the knowledge of the clays.

WEISSER, HARRY BOYER

A textbook of colloid chemistry. Second edition. New York: John Wiley & Sons, Inc. 1949 444 p. illus. 24 cm. \$6.00 448

Contents (abridged): Part I, Adsorption. Surface tension and adsorption. General characteristics of adsorption of gas or vapor. Mechanisms of the adsorption of gas or vapor. Adsorption of liquid by solid wetting. Adsorption from solution of non-electrolytes and weak electrolytes. Adsorption from solution of strong electrolytes. Adsorption of liquid by liquid. Part II, Zeolites. Formation of zeolites. Purification of zeolites. The optical properties of zeolites. The kinetic properties of zeolites. Electrokinetic and electrochemical properties of zeolites. The stability of zeolite-solvent systems. Part III, Emulsions and foams. Part IV, Aerosols and solid sols. Part V, Applications of colloid chemical principles to contact catalysis and dyestuffs. Index of subjects. Index of subjects.

Note: (1947) An introductory textbook, which is also convenient survey and reference manual for students, chemists who are not specialists in colloid chemistry. Not only are the main concepts and phenomena explained clearly, but considerable body of the pertinent literature is digested. The index of subjects cited contains approximately 800 entries. The organization and general content of this edition are essentially the same as the first edition (1939) but numerous revisions have been made throughout the text and in the bibliography.

RADIOCHEMISTRY**CALVIN, MELVIN AND OTHERS**

Isotopic carbon, techniques in its measurement and chemical manipulation by Melvin Calvin, Charles Heidelberger, James C. Reid, Bert M. Tolbert, and Peter F. Yankwich. New York: John Wiley & Sons, Inc., 1949 376 p. illus. 24 cm. \$6.75 449

Contents: Production and properties of isotopic carbon. Measurement of carbon 13. Characteristics of carbon tracer radiations. Instruments for radioactivity measurement. Detection for radioactivity measurements. Sample preparation. Vacuum techniques in organic chemistry. Synthesis of carbon-labeled compounds. Criteria of purity. Degradation processes. Radiochemical methods. Appendixes. Bibliography. Author index. Subject index.

Note: A reference book and laboratory manual for the use of scientists and technicians who are using isotopic carbon (C^{13} or C^{14}) in laboratory procedures. As indicated by the chapter titles, methods that apply generally to the manipulation of isotopic carbon—and to carbon itself, other radioactive isotopes—are first considered, then in the sixth chapter procedures for the actual synthesis of labeled compounds are given. This chapter is nearly three pages long, and it summarizes all of the syntheses which have been reported in the literature up to April, 1948. The appendixes furnish information on physical methods, efficiencies of counters, radioactivity assay, on isotopes strong for cloned systems, and other topics. There are numerous bibliographical footnotes and an extensive bibliography.

CORYELL, CHARLES DUBOIS, AND NATHAN SUGARMAN, editors

Radiochemical studies. The fission products. New York: McGraw-Hill Book Company Inc., 1951 2086 p. illus. 24 cm. 1 volume in 3 (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record, Vol. 9) \$27.75 449a

Contents (abridged): Part I, Counting techniques (papers 12 to 11). Part II, Chemical studies at tracer levels (papers 12 to 23). Part III, Remote-control techniques (papers 24 to 33). Part IV, Studies of the fission process (papers 34 to 52). Part V, Radioactivity of the fission products (papers 53 to 199). Part VI, Radiochemistry of the fission-product elements (papers 200 to 310). Part VII, Special studies of selected fission products (papers 311 to 317). Part VIII, Radiochemical studies of other activities (papers 318 to 326). Appendixes. Index.

Note: The 316 papers comprising these three volumes were prepared from 1942 to 1944 during the search for methods for producing plutonium. Each paper is complete in itself but together they provide a detailed account of the nuclear properties of fission products, and of the techniques employed in their production. Many of the papers have been corrected and rewritten, and an effort has been made to correlate their contents through the use of cross references, but always the original data have been retained. Brief summaries and lists of references are included with each paper.

FRIEDLANDER, GERHART, AND JOSEPH WILLIAM KENNEDY

Introduction to radiochemistry. New York: John Wiley & Sons Inc., 1949 412 p. illus. 22 cm. \$5.50 450

Contents: Naturally occurring radioactive substances. Atomic nuclei. Nuclear reactions. Sources of ionizing particles. Quantitative treatment of radioactive processes. Types of radioactive decay. Ionization of radiations with matter. Instruments for radiation detection and measurement. Statistical considerations in radioactivity measurements. Techniques for measurement and study of radiations. Identification, construction, and isolation of radioactive species. Chemistry of low concentrations and the study of new elements. Tracers in chemical applications. Appendix. Index.

Note: A general, introductory textbook. The authors have assumed that their reader will be familiar with basic physics and chemistry and therefore have devoted the book to the phenomena of radioactivity and their application to chemistry. Comparatively little space is given to applications, but there are some incidental references and one entire chapter on these aspects. Applications are covered more thoroughly in Wahl, A. C., *Radioactivity applied to chemistry* (see below). The main features of the appendix is a table of "Radioactive and stable isotopes of the elements, which is almost 100 pages long and contains data from several sources.

UNITED STATES ATOMIC ENERGY COMMISSION

Isotopes. A three-year summary of distribution. With extensive bibliography. Washington, D. C.: Government Printing Office, 1949 201 p. illus. 23 cm. Paper \$1.00 451

Contents: Growth of isotope distribution. Production. Isotope labeled compounds. Increased isotope utilization. Domestic utilization. Foreign utilization. Training in radioisotope techniques. Future of program. Appendixes: Statistical information on growth of program. Chronological outline of development of isotope distribution program. List of using institutions and departments. Tables on isotope distribution. Graphic illustrations of isotope distribution. Outline of procedure for obtaining radioisotopes. List of isotopes available and information on isotope-labeled compounds. Bibliography: List of papers on isotope utilization. Medicine. Analytical physics. Radiology. Animal husbandry. Plant physiology. Physics. Chemistry. Industrial research. General. Author index for bibliography.

Note: An official account of the first three years of the distribution of radioactive elements for use in peacetime research. During this period, August 2, 1946-June 30, 1949, more than 7000 shipments of radioactive isotopes, for use in fields of basic science,

Theory of diffusion, by C. Zener. iv On the properties and effects of external and internal surfaces of crystals. Surface and interfacial tensions of single-phase metals, by J. C. Fisher and C. G. Dunn. Dislocation models of grain boundaries, by W. T. Read, Jr. and W. Shockley. Interphase interfaces, by C. S. Smith. Substructures in crystals, by A. Gensler. The properties and effects of grain boundaries, by R. Chalmers. Movement and diffusion phenomena in grain boundaries, by R. Rastvorovskii. Author Index. Subject Index.

Note: A valuable addition to the literature of the physics of solids. It contains both the final papers whose titles are given above and excerpts from the discussions at the symposium. The first paper is an authoritative survey of the current status of the knowledge of imperfections in crystals. The other papers, for the most part, describe results of recent investigations. In addition to being fundamental work for specialists in crystallography the book is of interest to physicists working in the fields of semiconductors and the physics of metals and to metallurgists conducting fundamental research.

NATIONAL RESEARCH COUNCIL, DIVISION OF PHYSICAL SCIENCES. COMMITTEE ON SOLIDS

Phase transformations in solids. Symposium held at Cornell University August 23-26, 1948. Editorial committee: R. Smoluchowski, J. E. Mayer and W. A. Weyl. New York: John Wiley & Sons Inc., 1951. 660 p. 22 cm. \$9.50. 458

Contents: On the general theory of phase transitions, by L. Tien. A general method for imperfect crystals and phase transitions, by J. E. Mayer. Crystallographic aspects of phase transitions, by J. O. Kirtland. Fundamentals aspects of diffusion in solids, by F. Seitz. Nucleation theory, by R. Rastvorovskii. Crystallographic aspects of phase transformations, by M. J. Breuer. The solid-liquid transition in crystals, by O. K. Rice. Transitions in silver halides, by M. L. Huggins. Phase transformations in one-component lattice systems, by F. C. Krichevskii. Phase transformations in polycomponent lattice systems, by J. F. Scherer. Transitions in glass, by W. A. Weyl. Phase transitions in inorganic compounds, by R. Marchessault. Transitions in pure metals, by C. S. Smith. Order-disorder transitions in metal alloys, by S. Nagai. Precipitation from solid solutions of metals, by A. H. Gensler. The relaxation reaction, by R. F. Mehl and A. Doherty. The martensite transformation, by M. Cohen.

Note: The phenomena of phase transformations in solids is of interest in a variety of fields, some of which, such as photography and metallurgy, are not obviously related. The papers are addressed primarily to scientists working in laboratories and industry. They are accompanied by lists of related literature and by transcripts of discussions. Although the book is a valuable contribution to knowledge, no index has been provided.

UNITED STATES, NATIONAL BUREAU OF STANDARDS. NATIONAL APPLIED MATHEMATICS LABORATORIES

Tables for conversion of X ray diffraction angles to interplanar spacing. Issued September 20 1950. Washington, D. C. Govern-

ment Printing Office, 1950. 159 p. 27 cm. (United States. National Bureau of Standards. Applied mathematics series 10) \$1.75

459

Contents: Introduction. Tables of spacing values ($\theta = 9(0100^\circ)$ to 88°). Molybdenum K α radiation, $\lambda = 0.70936\text{Å}$. Copper K α radiation, $\lambda = 1.54060\text{Å}$. Nickel K α radiation, $\lambda = 1.6578\text{Å}$. Cobalt K α radiation, $\lambda = 1.7890\text{Å}$. Iron K α radiation, $\lambda = 1.9379\text{Å}$. Chromium K α radiation, $\lambda = 2.2846\text{Å}$. Tables of spacing values ($2\theta = 0(00180^\circ)$ to 88°). Copper K α radiation, $\lambda = 1.54050\text{Å}$. Iron K α radiation, $\lambda = 1.9379\text{Å}$.

Note: These tables give spacing values d in angstrom units corresponding to the angles θ which are usually measured when diffraction patterns are used for chemical identification and crystal structure determination. The angles are related to interplanar spacings by the formula $d = \frac{a}{\sin \theta}$ where λ is the wavelength of incident X radiation and θ is half the angle between the incident and diffracted rays. The values given in the calculations are those adopted at the International Conference sponsored by the British Association of Physics in London, July 1946.

WAHLSTROM ERNEST EUGENE

Optical crystallography. Second edition. New York: John Wiley & Sons, Inc., 1951. 247 p. illus. 24 cm. \$4.50. 460

Contents: Crystallography. Physical properties. Elementary optics. Optics of isotropic substances. The polarizing microscope. Measurement of indices of refraction. The uniaxial indicatrix. Polarization of light. Uniaxial crystals in plane-polarized light. Uniaxial crystals in convergent polarized light. Optical anisotropy. Light determination in biaxial crystals. Biaxial crystals—the biaxial indicatrix. Biaxial crystals in convergent polarized light. Determination of optic sign in biaxial crystals. Dispersion in biaxial crystals. Microscopic examination of anisotropic substances. Appendixes. Index.

Note: (1959) The techniques and principles of optical crystallography are rapidly finding application in fields other than those of mineralogy and petrology. This volume is intended to serve as an introduction to the subject for workers in these other fields who are concerned with the identification of solids. Like its predecessor, this edition deals primarily with basic principles and theories. Most of the chapters have been rewritten and expanded and numerous three-dimensional drawings have been added. The section on the extinction stage method has been enlarged, and the selective bibliography has been revised and brought up to date.

WYCKOFF RALPH WALTER GRAYSTONE

Crystal structures. Volume II. New York: Interscience Publishers, Inc., 1951. [585] p. illus. 25 cm. \$10.00. 461

Contents: Compounds of the type $\text{R}_2\text{AX}_2\text{X}_2$. Compounds of the type $\text{R}_2(\text{MX})_2$. The crystal structures of lyticates and mononuclears. The structures of aliphatic compounds.

Note: (1957) A standard reference work of data on crystal structures. It is published in loose-leaf form so that additional and revised pages may be inserted as new data become available. In addition to Volume II, noted above, which attends the work to new groups of compounds, there was published in 1951 the first supplement to Volume I, consisting of pages to be inserted in that volume.

GEOLOGY

GENERAL

BRANSON EDWIN BAYER, AND W. A. TARR

Introduction to geology Third edition. Revised by Carl C. Branson and W. D. Keller
New York McGraw Hill Book Company Inc. 1952 492 p illus. 24 cm. \$5.50 462

Contents (abridged) Part 1. Physical geology: The organization of matter (of the earth). Volcanism and igneous rocks. Weathering of igneous rocks. Running water. Ground water. The ocean. Sedimentary rocks. Metamorphic rocks. Snow and ice. The wind. Structures and diastrophism. Earthquakes. Part 2. Historical geology: Origins of the earth. The Paleozoic—Mesozoic, Paleozoic, and Paleozoic periods. The Mesozoic era. Lower Mesozoic—Triassic period. Middle Mesozoic—Jurassic period. Upper Mesozoic—Cretaceous period. The Cenozoic era. The Pleistocene or glacial epoch. Index.

Note: (1074) A standard textbook for college courses offered to students who are not majoring in geology but need the subject for cultural background. It is simply written and fully illustrated. The second edition was published in 1941. In the present edition changes have been made in both the text and illustrations. The chapters have been rearranged somewhat and accounts of certain new developments of fairly broad interest, such as the birth of the volcanic Pacific, have been added. Because little technical terminology is used it has some utility as a survey and general reference work for lay readers.

DUNBAR, CARL OWEN

Historical geology New York John Wiley & Sons Inc., 1949 567 p illus. 24 cm. \$6.25 463

Contents: Prologue. Records in stone. The scale of time. Fossils. Bragg record. I. the dead. The constant changes of living things. Before the Cambrian. Origins of the earth. The Cretaceous—pre-Cambrian history of the earth. The Paleozoic world: The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Crises in earth history. The Mesozoic world. The Triassic period. The Jurassic period. Cretaceous time and the end of an era. The modern world suitable: Physical history of the Cenozoic era. Ice sculptures in the final scene. Man and his earth. The coming of man. Epilogue. Appendix. Index.

Note: (1083) This work is revision of *Textbook of geology* Part 2, *Historical geology* fourth edition, by the author and the late Charles Richard Whitten for use in beginning courses in historical geology it offers survey of the physical and biological changes on the earth from the earliest records to the time of prehistoric man, with emphasis on the North American continent. The text has been rewritten in parts and recent advances in the field have been included. New publications have been added to the bibliography. The book is profusely illustrated with photographs, maps, and diagrams, many of which are new.

EMMONS WILLIAM HARVEY AND OTHERS

Geology principles and processes. By William H. Emmons George A. Thiel, Clinton R. Stauffer and Ira S. Allison Third edition
New York McGraw Hill Book Company Inc., 1949 502 p illus. 24 cm. \$5.50 464

Contents: Introduction Materials that constitute the earth. The atmosphere. Wind as an agent of gradation. Ground water. Gradation by mass movement of surface materials. Geostationary work of streams. Gradational work of snow and ice. Lakes and swamps or marshes. The ocean. The origin and nature of sediments. Sedimentary rocks. Volcanism. Igneous rocks. Diastrophism. Earthquakes. The origin and structure of mountains. Metamorphism. Probable conditions within the earth. Mineral deposits. Appendix. Index.

Note: (1077) A brief and simple introduction designed for use in one-semester college courses. It is limited largely to landscape

features and to geological processes that are easily observed and comprehended. In this edition number of illustrations, many of them aerial photographs, have been added. Also, there has been some changes in the text, but the revision has not been extensive.

ENGELN OSCAR DIEDRICH VON, AND KENNETH E. CASTER

Geology New York McGraw Hill Book Company Inc., 1952 730 p illus. (part col) 24 cm. \$7.00 465

Contents (abridged) Introduction to geology: Materials of the earth. History of early geologic ideas. The natural history of igneous rocks: Origin and composition of magma. Phenomena of intrusion. Phenomena of extrusion. Volcanic cones and associated phenomena. Igneous rock classes and varieties. Structures, process, forms: subvolcanism. Underground water. Diastrophism. Structural geology. Metamorphism. Metastable and plasmic. Sculpture of the land in humid regions. Sculpture and modeling of the land in arid regions. Geology of the shores and floor of the ocean. Rivers and floodplains of glaciers. Geologic history: Cenozoic era. Mesozoic era. Paleozoic era. Cretaceous era. Index.

Note: An introductory college text suitable for use by both students who will take only an introductory course and those who plan to pursue the subject further. It provides view of the basic concepts of the main branches of geology including paleontology. Also there is brief presentation of current theories of cosmology. The book is written in clear style and is adequately supplied with literature references and illustrations.

FENTON CARROLL LANE, AND MILDRED ADAMS FENTON

Glants of geology New York Doubleday & Company Inc. 1952 333 p illus. 22 cm. \$3.50 466

Contents: Fluids and earthquakes. Geophysics second story. Maps and ancient volcanism. Geology by distance. Three physical facts. Neptune versus Volcan. Life goes with him. Knight of the "paleo-planet." The Cambrian conflict. Ageless of the ice age. New places to new world. Re-exposed professor. Geologies at large. Immediate answer. That nation might grow. Fossils or Appendix. High Miller of the "Old Red." A great and good man. Raynolds and new surveys. Canyon's conqueror. Earth history and changing land. Low Laith and Her Majesty's Survey. Glaciers in geology. Sources and references. Index.

Note: The lives and personalities of major contributors to the development of geological knowledge lead interest to what is essentially a popular account of the growth of geology. The book is addressed to general readers and is a good example of scholastic writing for this group. The narrative is supplemented by portraits and other illustrations of considerable interest. There are no bibliographical references in the text but the list of "sources and references" at the end of the book is arranged in the same order as the chapters. The first edition was entitled *The story of the great geologists*.

GARRELS ROBERT MINARD

A textbook of geology New York Harper & Brothers 1951 511 p illus. 24 cm. (Harper's geoscience series Carey Cronin editor) \$5.00 467

Contents (abridged) The general setting. Surface features of the earth. The problem of the history of the earth. Earth history from study of running water. Work of the waves. The work of the wind. The work of ice. The sedimentary rocks. Igneous rocks. Metamorphic rocks. Evidence of earth movement. The interior of the earth. Mechanics of earth movement. The origin of the earth. The origin of life. A survey of geologic history. The mechanism of evolution. The interpretation of geologic environments—reconstruction of typical areas. The origin of man. Appendix: The use of graphs. Field identification of common igneous rocks and minerals. Classification of plants and animals. Index.

Note: In this introductory college textbook the approach to the subject is analytical rather than descriptive. Such geological processes as wind erosion are studied first from the viewpoint of the physical principles and second with regard to the geological effects. Some mathematics is used but it is minimally simple. The illustrations are numerous and of excellent quality. The author is member of the faculty of Northwestern University.

GILLISPIE, CHARLES COULSTON

Genesis and geology: a study in the relations of scientific thought, natural theology and social opinion in Great Britain, 1790-1850. Cambridge: Harvard University Press, 1951. 315 p. 22 cm. (Harvard historical studies published under the direction of the Department of History Vol. LVIII) \$4.50 468

Contents: Through nature up to nature's God. Myths and the flood. From uterine to paleontological Catastrophical geology. The uniformity of nature. The vestiges of creation. How useful is the vestiges place. The place of providence in nature. Bibliographical essay. Index. Index.

Note: A study of an interesting chapter in the development of geology in particular and of scientific thought in general. It is largely limited to the efforts of scientists themselves to reconcile theology with science. The author states: "I have decided that the issues discussed arise from a great theological frame of mind within which, I have written from that point of view and have achieved the purely clerical opponents of science as a whole. The writer shows that the theologians of the time were true followers of Darwin and that they prepared the stage for the controversy over Origin / species. The Bibliographical essay" is running account of sources, specialized works, popular scientific works, scientific societies, and publications.

GILLULY JAMES AND OTHERS

Principles of geology. By James Gilluly, Aaron C. Waters and A. O. Woodford. Illustrations by Robert R. Compton. San Francisco: California W. H. Freeman & Company, 1951. 631 p. illus. 24 cm. \$3.75 469

Contents: Introduction. The earth's broad pattern. Gravity: history, strength. Minerals. Rocks. Chemical weathering and soils. Erosion. Geologic maps. Earth and time. Movements of the earth's crust. Records of earth movement. Displacement movements of soil and rock. Stress, strain and deformation. Glaciers and glacialism. Ground water. Drought. The earth's interior activity. Earthquakes and the earth's interior. Metamorphic. Mineral resources. Appendixes. Index.

Note: A general introductory textbook in which the emphasis is placed on geological processes rather than on rock classification, etc. Basic terms and concepts such as history are explained with care. Also the authors bring the accounts from time to time by including such material as the controversy over the origin of humankind. The text reads easily and the book is excellently illustrated.

HOLMES, CHAUNCEY D.

Introduction to college geology. New York: The Macmillan Company, 1949. 429 p. illus. 22 cm. \$4.50 470

Contents: Earth records its own history. The planet earth. Minerals of the earth. Common igneous rocks and minerals. Sedimentary rocks and minerals. Archean and Proterozoic era. Paleozoic lands and seas. Mesozoic Paleozoic rocks and Mesozoic events. Paleozoic life. Cambrian-Silurian. Paleozoic life. Devonian-Permian. Mesozoic events of Mesozoic environment. Mesozoic life: reptiles-earth's other animals and plants during the reptilian reign. Survey of Mesozoic history. Cenozoic mammals. The ice age. The geologic history of man. Rivers and landscapes. Water beneath the land. Winds. Periglacial. Supplement. How to identify the common minerals. Rock identification. Index.

Note: A short, well-illustrated work in which the traditional divisions of the subject into physical geology and historical geology is avoided. The style is very readable hence the book is suitable for general readers as well as college students.

LIBBY WILLARD FRANK

Radiocarbon dating. Chicago: The University of Chicago Press, 1952. 124 p. illus. 23

cm. (The University of Chicago Committee on Publications in the Physical Sciences. Walter Bartky Warren C. Johnson, Joseph E. Mayer Cyril S. Smith, William H. Zachariasen) \$3.50 471

Contents: Principles. World-wide distribution of radiocarbon. Half-life of radiocarbon. Preparation of the sample for measurement. Measurement of the sample. Radiocarbon dates. The significance of the dates for archaeology and geology by Frederick Johnson. Appendixes: Special equipment and chemicals for the C¹⁴ sample preparation apparatus. Special materials for screen-wall counter. Indexes: Index of subjects. Index of names. Index of samples.

Note: The principles and techniques of relating the ages of organic materials, especially artifacts of archaeological interest, by measuring their radioactive carbon content are described in this book. Radiocarbon dating was developed by the author and his associates and this is the pioneer book about it. Methods of preparing samples and of measuring the weak radiation are described explicitly. Included is complete tabulation of dates accepted by society of archaeological samples by use of the radiocarbon technique up to the fall of 1951.

MASON, BRIAN

Principles of geochemistry. New York: John Wiley & Sons, Inc., 1952. 276 p. illus. 24 cm. \$5.00 472

Contents: Introduction. The earth in relation to the universe. The structure and composition of the earth. Basic thermodynamic and crystal chemistry. Magmatism and igneous rocks. Sedimentation and sedimentary rocks. The hydrosphere. The atmosphere. The biosphere. Metamorphism and metamorphic rocks. The geochronological cycle. Index.

Note: The author states that in this work "The aim has been to summarize the significant facts and ideas concerning the chemistry of the earth and to synthesize these data into coherent account of the physical and chemical evolution of the earth. The chapter titles fail to indicate the chemical emphasis. For example, the chapter on the hydrosphere is organized under the following sub-heads: The composition of sea water. The composition of terrestrial waters. The balance of elements of matter in sea water. The history and evolution of the ocean, and it contains 6 tables of chemical data. The level of treatment is introductory to this field, but readers need background in basic chemistry, physics, and geology. The author is member of the faculty of the Department of Geology of Indiana University.

MOORE, RAYMOND CECIL

Introduction to historical geology. New York: McGraw Hill Book Company Inc., 1949. 582 p. illus. 23 cm. \$6.50 473

Contents: Materials and methods of historical geology. Evolution of life. The beginning of the earth. The Pre-Cambrian period. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Nature and evolution of Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Nature and evolution of Mesozoic life. The Tertiary period. The Quaternary period. Nature and evolution of Cenozoic life. The geologic record of man. Appendix. Index.

Note: An introductory text for college students enrolled in courses in historical geology and for lay readers. It is written to inform them about the past history of the world in which they live. It is written in simple language and principles rather than details are emphasized. The treatment is very elementary and more graphic than is the author's *Historical geology*. New York, 1933. The total number of illustrations, including maps, sections, diagrams, photographs of typical rock exposures, topographic features, characteristic fossils, and photographs of restoration, amounts to 344 each with descriptive comments. Most of the illustrations are original. There is a detailed index.

PEARL, RICHARD MAXWELL

Guide to geologic literature. New York: McGraw Hill Book Company Inc., 1951. 239 p. 24 cm. \$4.50 474

Contents: Part I, Introduction: The problem of geologic literature. Conducting the search. Part II, Library facilities: Arrangement of the library. Library catalogues. Indexing. Library services. Part III, kinds of geologic literature: Index guides and bibliography. Ab-

tracts, Periodicals, United States government documents, Organization bulletins, State bulletins, County and city bulletins, Bulletins of other countries, Books, Newspapers, Theses, Unpublished manuscripts, Maps, Index.

Note: A reference manual which contains descriptions of the standard and useful geologic literature and advice on searching it for published information. Under each of the headings given above the utility of specific class of literature is discussed briefly and the chief publications are named and briefly described. The scope has not been restricted to strictly geological books and journals, but journals that include information of interest to geologists along with information on other topics have also been included. Publications of only historical interest are described along with those of value in current geological work.

REICHE PARRY

A survey of weathering processes and products. Revised edition. Albuquerque The University of New Mexico Press 1950 95 p. illus. 23 cm. (University of New Mexico publications in geology Stuart A. Northrop editor No 3) Paper \$1.00 475

Contents: Introduction. Physical processes. Chemical processes and reactions. The results of chemical weathering. Soil-forming processes and soils. The factors of relief and time. Appendix. Bibliography.

Note: Essentially this work is a concise review of the current knowledge of the weathering of rock by chemical processes. Physical processes are outlined in the first chapter, but are given comparatively little space. The treatment of the chemical processes assumes knowledge of basic chemistry of the part of the reader. Although compact, the presentation is not so condensed that every reader will have to resort to the literature. A bibliography of 63 citations is included. The book is suitable for upper-graduate undergraduate college students who are majoring in geology and for college graduates doing work in geology or in related fields such as the physics or chemistry of soils. Here general knowledge of weathering processes is useful.

SIEGRIST MARIE AND ELEANOR TATGE

Bibliography and index of geology exclusive of North America. Volume 13 1948 New York The Geological Society of America, 1949 386 p 26 cm. \$3.25 476

— Volume 14 1949 By Marie Siegrist. New York The Geological Society of America, 1950. 375 p 26 cm. \$3.00 477

— Volume 15 By Marie Siegrist and Marcus Lakeman New York The Geological Society of America, 1951 429 p. 26 cm. \$3.00 478

Note. (402) A standard manual guide to the geological literature of the world exclusive of the literature on the geology of North America, which is covered by United States Geological Survey's *Bibliography of North America*, described below. The arrangement is by author with detailed subject index. Most of the entries are accompanied by short annotations which indicate the scope or content of the article.

THOM EMMA MARTINS AND OTHERS

Bibliography of North American geology 1946-1949, by Emma Martins Thom, Mary Jorie Hooker, and Ruth Reece Dunaven Washington D. C. Government Printing Office, 1949-1952 4 vols. 23 cm. (United States Geological Survey Bulletin 958 968 (o p.) 977 985) Paper \$1.50 \$0.55 \$1.00 479

Note: (403) Four more supplements to the *Bibliography of North American geology* the basic volumes of which, covering the years 1785-1945 were published as numbers 744, 747, 822, 837 958, and 946 and 911 of the same bulletin series. Paleontology, petrology and mineralogy as well as geology are covered for the years indicated, and publications dealing with Panama, the Hawaiian Islands, and

Green, as well as with continental North America and its adjacent islands, are included.

GEOLOGY OF VARIOUS REGIONS

BUCHER, WALTER H

Geologic structure and orogenic history of Venezuela. Text to accompany the author's geologic tectonic map of Venezuela. New York The Geological Society of America, 1952 113 p illus. 26 cm. (Geological Society of America. Memoir 49) \$1.50 480

Contents: Preface. Acknowledgments. Mesozoic basin. Venezuelan Andes. Paleozoic rapids. Western Caribbean mountains. Paraguanes and Guayana peninsulas and the islands north of the Venezuelan coast. Eastern Caribbean mountains, including the northern and central ranges of Trinitad, Eastern Venezuelan basin and southern Trinitad, El Basil Suvell, Apure basin, and the western part of the west Venezuelan basin. Guyana shield. References. Index.

Note: A concise description of the structural geology of Venezuela, designed to be used with a map prepared by the author and drawn on the scale of 1:1,000,000. The bibliography lists the pertinent literature in English and Spanish.

EARDLEY ARMAND JOHN

Structural geology of North America. New York Harper & Brothers, 1951 624 p illus. (part col d) 22 cm (Harper's geoscience series Carey Cronise editor) \$12.50 481

Contents (abridged): Structural terminology and classification. Stable interior of the continent. Paleozoic Caribbean provinces. Appalachians. Mountain systems. Eastern Tropic basin. Atlantic coastal plains. Ouachita, Marathon, and Cambrian systems. Western and mountain Rockies systems and the Texas basement. The late Paleozoic mass of faulting and cryptovolcanic structures. Mesozoic systems along the Pacific Coastline and Mountain Rockies. Stable Appalachia. Central Rockies. Colorado and New Mexico basins. Rockies of northwestern Mexico. Coast ranges of the Pacific. San Catalina and Sonora systems. Pacific subduction system. Andean-Andean-Caribbean region. Bibliography. Index.

Note: A compact but fairly detailed treatment of the structural evolution and present landscape features of the North American continent. The arrangement is by region, but even small areas are discussed if they are of special interest to the structural geologist. A series of 16 colored maps portrays the tectonic evolution of the continent from the Cambrian period to the late Cretaceous. The work is an extraordinary contribution to geological geology. In the whole book there are 441 figures consisting reproductions of about 750 maps and diagrams.

MATTHES FRANÇOIS EMILE

The incomparable valley a geologic interpretation of the Yosemite. Edited by Fritof Fryxell. Berkeley University of California Press 1950 160 p. illus. 25 cm. \$3.75 482

Contents: The Sierra Nevada. The Yosemite region and its high Sierra. Yosemite valley. The Yosemite through the ages. The sculpturing of the valley. The domes. The marks of time. The waterfalls. The little ice age of historic times.

Note: A fascinating exposition of the geology of the Yosemite valley. Though definitely written for non-geologists, even geologists who are about to spend their first vacation in the Yosemite valley will find it good reading. The book has compact text is supplemented by 50 reproductions of remarkable photographs. The author was lost recognized as an authority on Sierra Nevada and Yosemite valley geography. This book was assembled after his death from his *Geologic History of the Yosemite valley* (1930) other professional publications, and unpublished notes made in preparation for this book.

MATTHES FRANÇOIS EMILE

Sequoia National Park, a geological album. Edited by Fritof Fryxell, Berkeley University of California Press, 1950 136 p. illus. 25 cm. \$3.75 483

Contents: The great Sierra block. Ecological features due to successive uplifts. Evidence of glacial action. Glacial moraine, cirques, and lake basins. Andeanic scarpices. Effects of forest action on high mountains. Rock basins composed of massive granite. Effects of prolonged chemical weathering. Metamorphic rocks and their folded structure. Features due to solution in marble. Features due to volcanic action. Glossary.

Note: In this interesting and unusual book the contents of three "Keynote" volumes, especially prepared by the author for the use of the U. S. National Park Service, have been combined and the text edited so as to make it consistent and valuable to laymen. Most of the space is occupied by good reproductions of 114 excellent photographs, each of which depicts an interesting geologic feature. The text consists largely of short legends, each accompanying the illustrations and describing the geologic aspects. The region covered is outstanding for its scenery, which has been produced by wide ranges of geomorphic processes.

NEWELL, NORMAN DENNIS

Geology of the Lake Titicaca region Peru and Bolivia. New York. The Geological Society of America, 1949. 111 p. illus. 26 cm. (The Geological Society of America. Memoir 36) \$5.00 484

Contents: Abstract. Introduction. Geomorphology. Geologic structure. Stratigraphic summary. Devonian rocks. Permian rocks. Jurassic rocks. Cretaceous rocks. Tertiary rocks. Glaciation of the Titicaca region. Igneous intrusive rocks. Geologic history. Paleogeographic history. Works to which reference is made. Index.

Note: The region described in this monograph has complex geology which is distinct from adjoining Andean areas to the north and northwest. It contains the world's highest salt lake. The book is based on previously published studies and on field study made by the author during twelve visits to the area from the years 1942 to 1945. The illustrations include photographs of thirty-six views of landscape features having geologic interest. The book is supplemented by two geological maps and two diagrams of the structural evolution of the Lake Titicaca and Pirin areas.

RICHARDS, HORACE GARDINER

Geology of the coastal plain of North Carolina. Philadelphia. The American Philosophical Society 1950. 83 p. illus. 30 cm. (Transactions American Philosophical Society New series—vol. 40 part 1) Paper \$1.50 485

Contents: Introduction. Stratigraphy of the North Carolina coastal plain. Lower Cretaceous. Upper Cretaceous. Eocene. Oligocene. Miocene. Pliocene. Early Pleistocene. Late Pleistocene. Recent formations. "Correlation charts." Structure of North Carolina coastal plain. Economic geology. Correlation of North Carolina coastal plain formations. Historical geology. Bibliography. Index.

Note: A comprehensive study based back on field work and study of the literature. The bibliography covers the literature published since 1912 and also some papers published before 1912. Much was material from the bibliography in volume 11 of the North Carolina Geological and economic survey (1911). Most of the 16 figures are reproductions of photographs of landscape features or of fossil specimens.

STARK JOHN THOMAS AND OTHERS

Geology and origin of South Park, Colorado. By J. T. Stark, J. H. Johnson, C. H. Behre, Jr., W. E. Powers, A. L. Howland, Don B. Gould, and others. New York. The Geological Society of America, 1949. 188 p. illus. 26 cm. (Geological Society of America. Memoir 33) \$3.75 486

Contents: Abstract. Introduction. Physiographic features. Pre-Cambrian rocks. Paleozoic and later sedimentary rocks. Tertiary sediments. Pleistocene sediments. Post-pre-Cambrian igneous rocks. Structural geology. Geologic history of South Park. Appendix—reconstructions. Glossary. Bibliography. Index.

Note: A physiographic, structural, and tectonic study of South Park, an extensive, stratigraphically flat basin in central Colorado, formed by strongly contrasting, rugged mountains, among the highest in the United States. It is based primarily on field work, however, considerable body of pertinent literature is cited in the bibliography.

Reply: The work is an outstanding example of cooperative study of small complex areas.

WEAVER, CHARLES EDWIN

Geology of the Coast ranges immediately north of the San Francisco Bay region, California. New York. The Geological Society of America, 1949. 242 p. illus. 26 cm. (The Geological Society of America. Memoir 35) \$6.50 487

Contents: Abstract. Introduction. Geomorphology. Stratigraphy. Igneous rocks. Structure. Geologic history. Economic geology. Literature. Index.

Note: The geology of systematic geologic structure and economic deposits of an area of approximately 2,215,000 square miles in the Coast ranges of central California are described in this professional study. The structure of the region is complex. Although it contains no producing oil wells, several wells have been drilled and the log of one well drilled to 1,180 feet is included. The book has been written for use by professional geologists.

MINERALOGY AND PETROLOGY

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Problems of clay and laterite genesis. Symposium at annual meeting of The American Institute of Mining and Metallurgical Engineers, St. Louis, Missouri, February 19-22, 1951. Sponsored by the Karl Eilers Memorial Fund. New York. American Institute of Mining and Metallurgical Engineers, 1952. 244 p. illus. 23 cm. \$6.00 488

Contents: The economic significance of mineralogy by A. F. Froelich. Origin of the Archaean banded deposits, by Mackenzie Gordon, Jr. and J. L. Tracy. Pyroclastic and lacustrine deposits. Geochemical variations in argill, by R. C. Harter. Investigations on cold-precipitated hydrated ferric oxide and its origin in clays, by R. C. Mackenzie. Studies in the system aluminum-silica-water by R. Ray and E. P. Osborn. Mineralogy and origin of the Mazon breccia of north-central Pennsylvania, by R. C. Seliger and J. H. Wells. The structure of hydrated aluminum oxides and hydroxides, by W. O. Milligan and J. L. Maclean. Genesis of clay minerals, by R. A. Hower. Prospecting for useful clays in relation with three conditions of genesis, by G. Miller. Observations on the origin of Missouri high alumina clays, by W. D. Keller. New clay mineral evidence concerning the diagenesis of some Missouri sediments, by J. F. West. Interrelationships of structure and genesis in the kaolinitic group, by T. F. Bates. The growth and morphology of the sheet-silicate clays, by G. D. Sherman. Occurrence and evolution of Georgia's kaolin deposits, by T. L. Kester. Kaolinitic clay deposits, by R. A. Hower. Recent advances in clay mineral technology, by R. L. Grim. Discussion. Name index. Subject index.

Note: A collection of technical papers written by geologists, mineralogists, chemists, and specialists in soil science. The symposium (and the book) was designed to bring together the contributions and ideas of scientists from various fields. The papers were addressed to graduate scientists and engineers with theoretical or practical interests in clay materials. Literature references are included.

RASTIN EDSON SUNDERLAND

Interpretation of ore textures. New York. The Geological Society of America, 1950. 101 p. illus. 26 cm. (The Geological Society of America. Memoir 45) \$1.75 489

Contents: Introduction. Textures of magmatic ores. Common textures indicative of deposition in open space. Principles of crystallized deposition. Common ore textures. Replacement textures. Microscopic inclusions. Porphyroblasts or order of deposition. Textures of sedimentary ore deposits. Ore textures formed by dynamometamorphism. Referred to as "textures of ore." Index.

Note: The textures of ore when viewed under the microscope are correlated in this book with the general or methods of formation of ore. Only aspects such as would concern ore are analyzed or practiced.

by mineralogists are treated. In other words, there is little discussion of the physical chemistry principles underlying any description. The author has included information from the literature and from his own work. The 18 plates show photographs of microphotographs of approximately 100 prepared ore specimens.

DANA, EDWARD SALISBURY

Minerals and how to study them revised by Cornelius S. Hurlbut, Jr. Third edition. New York: John Wiley & Sons Inc., 1949. 323 p. illus. (part col'd) 22 cm. \$4.25 490

Contents: Minerals and mineralogy. Some preliminary hints on how to study minerals. Crystals and crystal habits. Physical properties of minerals. Chemical properties of minerals. Use of the blowpipe. Description of the mineral species. On the determination of minerals. Appendices. Index.

Note: The first edition of this manual was published in 1893 and second edition, which embodied no major revisions, in 1908. Both were designed to acquaint the beginner in mineralogy with the basic methods of describing, identifying, and classifying the more common minerals. The present edition has the same purpose, but the work has been extensively revised, especially in those chapters devoted to descriptions of the various species of minerals. Here are given modern data on the habit, physical properties, composition, and occurrence of each mineral, and the method of classification has been altered to conform with the now more commonly accepted chemical classification. Many new photographs of minerals, in their natural state and of their cross-sections, have been added.

DANA, JAMES DWIGHT

Dana's manual of mineralogy. Sixth edition. Revised by Cornelius S. Hurlbut, Jr. New York: John Wiley & Sons Inc., 1952. 530 p. illus. 24 cm. \$6.00 491

Contents: Mineralogy. Crystallography. Physical mineralogy. Chemical mineralogy. Descriptive mineralogy. Occurrence and economic use of minerals. Mineral uses. Descriptive mineralogy. Subject Index. Mineral Index.

Note: (1154) The first edition of this work was published in 1848; hence in its various editions it has spanned more than a century. In it are covered both the general techniques of mineral identification and concise, systematic descriptions of individual minerals. The mineral descriptions cover the following points: chemical composition, crystallography, physical properties, tests, special diagnostic features, uses, and the origin of the name. The book is used both as an introductory text and as a reference book in libraries and in the field. It has been substantially revised in this edition. The changes include adoption of modern crystallographic nomenclature, rewriting of the chapter on chemical mineralogy, new introductory chapter, and descriptions of minerals not listed in previous editions.

FAIRBAIRN, HAROLD WILLIAMS

Structural petrology of deformed rocks with supplementary chapters on statistical analysis by Felix Chayes. Cambridge, Mass. Addison Wesley Press Inc. 1949. Second edition. 344 p. illus. 24 cm. \$12.50 492

Contents: (Revised) Part I. Petrographic and experimental facts. Orientation patterns of minerals. Orientation of composite elements. Relation of folds to grain orientation. Experimental deformation. Reversible flow and rupture. Irreversible flow and recrystallization. Part II. Interpretation and application. Development of quartz orientation. Development of orientation in minerals other than quartz. Rotation and relative movement. Recrystallization in the laboratory. Folds and foliation. Hypotheses of rock flowage. Tectonic transport. Remarks on foliation and lineation. Part III. Methods and analytic procedure. Field and hand specimen procedures. Microscope and X-ray procedure. Presentation of data. Statistical analysis of two-dimensional fabric diagrams. Statistical analysis of three-dimensional fabric diagrams. Bibliography. Index.

Note: (1155) A reference book for specialists in petrology and graduate students preparing to enter this field. It deals with the fundamental processes of the formation of rocks and certain geological structures. Its primary purpose is to enable the petrologist to analyze rocks and to study geological formations on the basis of crystal structures, behavior of rocks under pressure and related processes. Much new material has been added in this edition, including the two chapters on statistical methods applied to the analysis of petrographs.

FAIRBAIRN, HAROLD WILLIAMS, AND OTHERS

A cooperative investigation of precision and accuracy in chemical, spectrochemical and modal analysis of silicate rocks, by H. W. Fairbairn and others. An investigation by staff members of Department of Geology, Massachusetts Institute of Technology, Cambridge, Mass. (in collaboration with Office of Naval Research, Washington, D. C.) Geophysical Laboratory, Carnegie Institution of Washington, Washington D. C. Geochemistry and Petrology Branch, U. S. Geological Survey, Washington D. C. Washington, D. C. Government Printing Office, 1951. 71 p. illus. 23 cm. (Contributions to geochemistry 1950-51. United States Geological Survey Bulletin 980) Paper \$0.35 493

Contents: Preparation and distribution of the samples, by H. W. Fairbairn. Results of chemical analysis of samples of granite and diorite, by W. G. Schlect and R. E. Stewart. Spectrochemical analysis of major constituent elements in minerals and rocks, by W. H. Doster and others. Spectrochemical analysis of some of the new elements in the granite and diorite samples, by L. E. Ahrens. Modal analysis of the test rocks, by Felix Chayes. Summary of results, by H. W. Fairbairn.

Note: The first part of this program report is introductory to the bulletin as a whole; the second, third, fourth, and fifth parts deal with particular aspects of analysis, and the sixth part summarizes. The authors express the hope that similar studies will follow in the future because the accuracy and precision of analytical methods used by petrologists, geochemists, and mineralogists are relative rather than absolute.

KRAUS, EDWARD HENRY AND OTHERS

Mineralogy, an introduction to the study of minerals and crystals. By Edward Henry Kraus, Walter Fred Hunt and Lewis Stephen Ramsdell. Fourth edition. New York: McGraw Hill Book Company Inc., 1951. 664 p. illus. 24 cm. \$8.00 494

Contents: Introduction. Crystallography. Cubic system. Hexagonal system. Tetragonal system. Orthorhombic system. Monoclinic system. Triclinic system. Composite crystals. Physical properties. Optical mineralogy. Crystal structure and X-ray analysis. Chemical properties. Formation and occurrence of minerals. Qualitative inorganic methods. Descriptive mineralogy. Gemstones. Classification of minerals according to elements. Glossary. Tabular classification of the 22 classes of crystalline solids for the determination of minerals. Subject bibliography. Index.

Note: (1147) A college textbook that contains enough material to make it useful also as an elementary reference book in library and personal collections. The general aspects of the subject are discussed in the first fifteen chapters which account for approximately 340 pages of the book's length. The minerals chapter which contains concise descriptions of representative minerals is 164 pages long. The tabular classification of minerals are arranged so that they may be used by both students and professionals. Both the text and the illustrations have been revised and extended in this edition. The bibliography is new feature.

KRUMBEIN, WILLIAM CHRISTIAN AND LAURENCE LOUIS SLOSS

Stratigraphy and sedimentation. San Francisco: W. H. Freeman and Company, 1951. 497 p. illus. 25 cm. \$5.00 495

Contents: Introduction. The stratigraphic column. Stratigraphic procedure. Properties of sedimentary rocks. Classification and description of sedimentary rocks. Sedimentary processes. Sedimentary environments. Stratigraphic paleontology. Sedimentary facies. Principles of correlation. Tectonic framework of stratification. Sedimentary techniques. Stratigraphic maps. Petrography. Bibliography. Index.

Notes: A substantial treatment, in the form of an appendix outlines textbook, of two related fields of geology that do not get full-scale treatment in general works. The order and relation of strata and the study of sedimentary rocks are important in applied geology such as petroleum geology as well as in numerous areas of historical geology. Current techniques such as the dating of samples from all wells as they are drilled are discussed, but most of the book is devoted to the fundamental knowledge. The text is supplemented by long bibliography that should be useful to graduate students. There is generous number of illustrations, and the format of the book is outstanding.

PALACHE CHARLES AND OTHERS

The system of mineralogy of James Dwight Dana and Edward Salisbury Dana, Yale University 1837-1892 Seventh edition entirely rewritten and greatly enlarged by Charles Palache, the late Harry Berman and Clifford Frondel. Volume II. New York John Wiley & Sons, Inc., 1951 1124 p illus. 24 cm \$15.00 496

Contents (abridged): Halides. Carbonates. Nitrites. Iodates. Borates. Sulfates. Silicates and tellurates. Chromates. Phosphates, arsenates, and vanadates. Antimonates. Vanadium oxymides. Molybdenates and tungstates. Organic compounds. Index.

Notes: (1117) In the present edition this classical reference work is being completely reorganized and rewritten. The classification is now one based on crystal chemistry. Data from X-ray investigations are being included for the first time. Other new features include new analytic series of classification numbers for species, revision of specific characters, and numerous literature references. The mineral groups listed above are covered in volume II. A third volume is in preparation.

PETTJOHN, FRANCIS JOHN

Sedimentary rocks. New York Harper & Brothers, 1949 526 p. illus. 24 cm. (Harper's geoscience series, Carey Cronels, editor) \$7.50. 497

Contents: Introduction. Textures. Compaction. Structures. Color. Classification. Compaction and lamination. Sedimentation. Shales and argillites. Limestones and dolomites. Metasedimentary rocks. Weathering. Tectonics. Deposition. Lithification and diagenesis. Author Index. Subject Index.

Notes: A relatively comprehensive treatment, even though it was intended by the author as an elementary work. The processes of sedimentation are covered with relative brevity but their products are covered thoroughly and with data—particularly on chemical composition—are included which has not been published previously in book form. Emphasis is on common groups and rocks rather than on rocks that are rarely encountered. There are 131 figures and 48 plates. Many of the latter are reproductions of microphotographs. There are many footnote references to the modern literature but no formal bibliography.

TURNER, FRANCIS JOHN AND JEAN VERHOGEN

Igneous and metamorphic petrology New York McGraw-Hill Book Company Inc. 1951 602 p. illus. 24 cm. \$9.00 498

Contents (abridged): Principles of chemical equilibrium applied to rocks. Characteristics and classification of igneous rocks. Variation in associated igneous rocks. Crystallization of igneous materials from silicate melts. Crystallization of basaltic and granitic magmas in the light of experimental data. The secondary effects—basaltic dykes, volcanic reactions. Volcanic eruptions of the neotectonic regime. Basic and ultrabasic plutonic associations. The granite plutonoids plutonic associations. Pegmatites, leucogranites, nepheline syenites. Enrichment, origin, and evolution of magmas. Principles governing chemical adjustment of magmas to metamorphic conditions. Comparison of natural associations with specific conditions of metamorphism. Characteristics of individual metamorphic facies. Special features of fabrics of deformed rocks. Metamorphism in relation to magmas and to country rocks.

Notes: An advanced treatise of interest to graduate students preparing for work in petrology and to graduates already at work in the field. It is the authors' knowledge of igneous and metamorphic

petrology is presented from the physicochemical standpoint. The phase rule and other principles of chemical equilibria applicable to the formation of rocks at high temperatures and under moderate temperatures are summarized in the second chapter. In the remainder of the book groups of rocks are discussed from the viewpoint of their parents, the genetic processes being viewed against the background of the second chapter as well-composed chemical systems. There is no systematic bibliography but selected literature is cited in footnotes.

TWENHOFEL WILLIAM HENRY

Principles of sedimentation. Second edition. New York McGraw-Hill Book Company Inc., 1950 674 p illus. 23 cm. \$7.50 499

Contents (abridged): The environmental factors. Classification and consideration of environments. Origin of terrigenous sediments. Interrelations of organisms and sediments. Transportation and deposition of sediments. Classification of sediments, sedimentary rocks, and minerals of sediments. The clastic sediments. Sediments of chemical deposition. The carbonaceous sediments. Silicified, terrigenous and magmatic sediments. The carbonaceous sediments. Evaporites. Phosphatic sediments. Structural features of sedimentary rocks. Textures and colors of sediments. Index.

Notes: (1164) A college textbook which also has fair amount of reference value. It provides an introductory survey of the current knowledge of both the principles of sedimentation and the soils and rocks produced by sedimentation processes. The treatment assumes that the reader will have had some previous work in geology. Throughout the book there are frequent lists of pertinent literature for the benefit of the student or practicing geologist who wishes to read further on particular topics. Substantial additions, both in text and illustrative matter have been made in the present edition.

WAHLSTROM ERNEST EUGENE

Introduction to theoretical igneous petrology New York John Wiley & Sons, Inc., 1950 365 p 22 cm. \$6.50 500

Contents: Introduction. Interrelationships equilibrium and the phase rule. Equilibria in silicate systems. Igneous minerals. The crust and the interior of the earth. Magmas—types and history. The ascent and emplacement of magmas. Crystallization of magmas. Igneous differentiation. Amorphous and crystalline. Quenching. Late magmatic and postmagmatic processes. Origin of rock types. Classification of igneous rocks. Appendix Physical-chemical concepts useful to petrologists. Index.

Notes: A short treatment written mainly for students of geology who do not plan to specialize in this branch of geology but nevertheless desire some knowledge of it. A fair acquaintance with basic geological terms and concepts has been assumed, and the reader needs also to be familiar with the concepts and terms of basic physics, chemistry and mathematics. Phase diagrams and other devices of physical chemistry are used freely. The emphasis is on the physicochemical processes that produced igneous rocks rather than on descriptions of the rocks themselves.

WINCHELL, ALEXANDER NEWTON

Elements of optical mineralogy: an introduction to microscopic petrography Part II—Descriptions of minerals with special reference to their optical and microscopic characters. Fourth edition. By Alexander N Winchell with collaboration of Horace Winchell. New York John Wiley & Sons Inc. 1951 551 p. illus. 24 cm. \$12.50 501

Contents (abridged): Introduction. Halides. Sulfides. Oxides. Carbonates, etc. Other mineral rock compounds. Borates. Silicates, etc. Phosphates, etc. Solubility. Index.

Notes: (1181) A standard book for the use of all who are concerned with the identification of minerals. Essentially it is descriptive catalogue of those minerals which can be identified by optical means. In general for each mineral listed, information is given on the following points: composition, crystalline structure, physical characteristics, optical properties, occurrence, and special characteristics that may be used to distinguish it from other clearly related minerals. The descriptions are accompanied by citations of the pertinent literature. There is much new material in this edition, including new literature citations, new data derived from X-ray studies of minerals, and some significant changes in classification.

DYNAMIC AND STRUCTURAL GEOLOGY

GEOLOGICAL SOCIETY OF AMERICA

Sedimentary facies in geologic history (Conference at meeting of The Geological Society of America held in New York New York, November 11 1948) Chester R. Longwell, chairman New York Geological Society of America, 1950 171 p illus. 26 cm. (Its Memoir 39) \$1.75 502

Contents. Abstract. Introduction. Mesozoic facies, by R. C. Moore. Facies changes in the Colorado plateau, by R. D. McKee. Sedimentary facies and geologic structure in the Basin and Range province, by S. W. Mader. Sedimentary facies and associated diastrophism in the Upper Cretaceous of central and eastern Utah, by E. M. Spicker. Oligocene facies, facies, and formations, by H. E. Wood. 7ad. Integrated facies analysis, by L. L. Sloss. W. C. Krumbein, and E. C. Deppeler. Discussion.

Note. A series of papers written for symposium organized specially to the Society's symposium on the origin of facies have been collected in this volume, together with transcripts of the discussion at the meeting. Various current views on the classification of sedimentary rocks and the interpretation of their history are presented. The papers are supplemented by lists of references, but the book contains no index.

GOLDMAN MARCUS ISAAC

Deformation, metamorphism, and mineralization in gypsum-anhydrite cap rock, Sulphur Salt Dome, Louisiana. New York The Geological Society of America 1952 169 p illus. 26 cm. (Geological Society of America. Memoir 50) \$3.00 503

Contents. Abstract. Introduction. Gypification. Stress effects in the cap rock. Recrystallization of anhydrite cap rock. Pressure solution between individual spines. Geologic relations of recrystallization and pressure solution. Rim gypification. Regenerated anhydrite. Mineralization and rare minerals. References cited. Index.

Note. A detailed study based on the examination of single, complete two-inch diameter-drill cores from the Union Sulphur Company's well no. 194 in the Sulphur Salt Dome, Louisiana. The core represents a complete section through the cap rock. The author's findings and conclusions are compared with the conclusions of others on the origin of cap rocks of the kind studied. The discussion is supplemented by 44 plates containing reproductions of photographs of polished sections and other views of this core.

GUTENBERG BENO editor

Internal constitution of the earth. Second edition. New York Dover Publications Inc., 1951 439 p illus. 24 cm. \$6.00 504

Contents: Introduction, by B. Gutenberg. The origin of the solar system, by H. Jefferys. Relevant facts and inferences from field geology, by E. A. Daly. Elastic properties of materials of the earth's crust, by L. H. Adams. The chemical and petrological nature of the earth's crust, by H. S. Washington and L. H. Adams. Observed temperatures in the earth's crust, by C. E. Van Orstrand. The cooling of the earth and the temperature in its interior, by B. Gutenberg. Forces in the earth, by B. Gutenberg. Hypotheses on the development of the earth, by B. Gutenberg. Evidence on the interior of the earth derived from seismic sources, by J. B. Macdonald. Evidence from deep-focus earthquakes, by B. Gutenberg and C. F. Richter. Structure of the crust—continents and oceans, by B. Gutenberg and C. F. Richter. Density gravity pressure and elasticity in the interior of the earth, by W. D. Lambert and F. W. Darling. Strain characteristics of the earth's interior, by H. Benoit and B. Gutenberg. Summary, by B. Gutenberg. Appendix. Author index. Subject index.

Note: A basic work on geophysics which was published originally as vol. 7 of the National Research Council's *Physics of the earth*, Washington, D. C., 1939. In preparing this edition the manuscript of which was apparently completed in 1949—all but two of the chapters have been expanded or substantially rewritten.

KAY, MARSHALL

North American geosynclines. New York The Geological Society of America, 1951 143 p. illus. 26 cm. (The Geological Society of America. Memoir 48) \$2.00 505

Contents. Abstract. Introduction. Hydrocarbon and magmatism. Geosynclines within the hydrocarbon. Paleogeography of the continental borders. Stratigraphy of the continental borders. Interpretation of the stratigraphy of eugeosynclinal belts. Paleogeosynclines. Geosynclines and sedimentation. Growth of eugeosynclines. Summary and conclusions. Classification and definitions. References cited. Index.

Note: This comprehensive monograph of the geosynclines of the North American continent is a technical study designed for use by professional geologists. There are 20 illustrations in the text and 15 folded plates, most of which are maps. There is also comprehensive bibliography.

KING PHILIP BURKE

The tectonics of middle North America, middle North America east of the Cordilleran system. Princeton Princeton University Press 1951 203 p illus. 27 cm. \$3.75 506

Contents. (Abstract) Reference maps. Crustal stable regions. Laurentian shield. Interior lowlands. Paleozoic structures southeast and south of the central stable region; Newfoundland. Western Appalachians. Central and southern Appalachians. Structures west of the Mississippi River. The central plains. Sources of igneous rocks.

Note. A synthesis of the currently valid information on the structural geology of the region named in the title. It is presented in the technical terminology and is intended for such readers as college students of geology and professional geologists. It separates the author's Outline of the structural geology of the United States, published in 1933. Most of the material is descriptive, and the text is supplemented by original diagrams and extensive bibliographies. The author has been associated with the United States Geological Survey for many years.

MILLER, WILLIAM JOHN

An introduction to historical geology with special reference to North America. Sixth edition. New York D. Van Nostrand Company Inc., 1952 555 p illus. 23 cm. \$5.50 507

Contents. Introduction. Geologic time. Fossils. Organic evolution. Rock formations. Relations of continents and ocean basins. Origin and pre-glacial history of the earth. The earth's crust. The Archean era. The Proterozoic era. The Cambrian period. The Ordovician period. The Silurian period. The Devonian period. The Mississippian period. The Pennsylvanian period. The Permian period. Paleozoic life. The Triassic period. The Jurassic period. The Cretaceous period. Mesozoic life. The Cenozoic era (excluding Pleistocene glacialization). Pleistocene glacialization. Cosmic life. Appendix. Index.

Note: (1084) A widely used college textbook. It is designed for use in first courses in the subject offered to students who have had an introductory course in general geology. The fifth edition was published in 1942. In preparing this edition substantial changes were made in both the text and illustrations. There are now 404 figures including numerous number of reproductions of photographs.

MILLER, WILLIAM JOHN

An introduction to physical geology with special reference to North America. Fifth edition. New York D. Van Nostrand Company Inc., 1949 482 p illus. 24 cm. \$5.00 508

Contents. Introduction. Materials of the earth's crust—sedimentary rocks. Instability of the earth's crust—diastrophism. Structure of the earth's crust. Volcanism. Rock weathering. The work of streams. Glaciers and their work. The work of the wind. The sea and its work. Subsurface water and its work. Mountains, plateaus, and plains. Lakes. Economic geology. Appendixes. Some common and useful minerals. Selected references on physical geology. Index.

Note: (1085) In its fifth edition, this standard work remains one of the most readable of college textbooks in geology. There has been some rearrangement of material and considerable amount of revision. Most statistics have been brought up to date, and various classified tables have been expanded or corrected.

MONNETT, VICTOR E. AND HOWARD E. BROWN

The principles of physical geology New York Ginn and Company 1950 450 p. illus. 24 cm. \$4.50 509

Contents: Geology its meaning and methods. The earth, its materials and processes. Weathering. Transportation of weathered material as result of gas action. The work of running water. Ground water. Lakes and swamps. The atmosphere. Glaciers and their work. The earth. Deformation of the rocks. Mountains. Volcanism. Development of landscapes. Minerals. Rocks. The earth's mineral wealth. Geology the servant and ally of man. Appendix. Basic facts about the earth. Important rock-forming minerals. Common rocks. Topographic maps (introduction and key). Index.

Note: An elementary work addressed presumably to college students. However, it is written and illustrated in a manner that makes it suitable to any literate person who is interested in landscape features and the processes that produced them. The style is lucid, and even what dealing with theoretical topics, the authors usually express themselves in concrete terms that are readily comprehensible by the average educated reader. Most of the illustrations are reproductions of excellent photographs. A special point is made of the value of large-scale topographic maps in the study of landscape features.

NEVIN CHARLES MERRICK

Principles of structural geology Fourth edition. New York John Wiley & Sons Inc., 1949 410 p. illus. 24 cm. \$6.00 510

Contents: Strata and strata relations. Physical properties of rocks. Folds. Faults. Joints. Cleavage. Structures associated with igneous intrusions. Structures in unconformable sediments. Reflection of rock structures in the topography. Some facts, interpretations, and hypotheses regarding the earth. Conclusions and some basic. Mineralogical systems. Laboratory exercises. Index.

Note. (1111) A standard college textbook which is noted for its concise but lucid discussions of the deformations of the earth that form the subject matter of dynamic and structural geology. Because it is brief and because the language is well technical, the book is also suitable for general readers who are more than superficially interested in the subject. The most pronounced change in the present edition is the addition of the section of laboratory exercises near the end of the book, but the whole work has been revised and the type has been reset.

RAMBERG HANS

The origin of metamorphic and metasomatic rocks a treatise on recrystallization and replacement in the earth's crust. Chicago The University of Chicago Press, 1952 317 p. illus. 24 cm. \$10.00 511

Contents: Definitions. Material boundary between metamorphism and magmatism. Thermodynamics of metamorphic processes. Equilibrium diagrams of metamorphic systems. Chemical kinetics of metamorphism. The kinetics of deformation of rocks and magmas. Strain-sensitization. Brief survey on structural properties of metamorphic rocks. The natural facies of metamorphic rocks. Metamorphism. The mechanism of metamorphic transfer of matter through rocks. Metamorphic differentiation. The principles of metamorphic differentiation and the question of radial facies during metamorphism. Contact metamorphism. Metamorphism in practically metamorphosed and low-grade sediments. Metamorphism in regionally metamorphosed complexes. Temperature in regional metamorphism. Appendix. Chemical bonds in crystals—a clue to predicting relative stability of minerals and cation distribution among them. References. Author Index. Subject Index.

Note: An important addition to petrological literature in which the petrochemist of the metamorphic and metasomatic rocks is studied from the viewpoint of thermodynamics and crystal chemistry. It represents the great advances in the understanding of metamorphism which have been made in recent years, advances in which the author himself has taken a considerable part. The first third is devoted to discussions of the physical-chemical processes, the remainder to specific series of petrographic events and to discussions of the general of specific reactions of rocks. Readers need fairly substantial knowledge of basic thermodynamics, physical chemistry, and petrology. The work is of interest to graduate students of petrology and geologists specifically in this field. The author is Associate Professor of Petrology in the University of Chicago.

TRASK, PARKER DAVIES editor

Applied sedimentation. Prepared under direction of Committee on Symposium on Sedimentation, Division of Geology and Geography National Research Council Washington, D. C. New York John Wiley & Sons, Inc. 1950 707 p. illus. 24 cm. \$6.75 512

Contents (abbreviated): Part I, Basic principles of sedimentation. Dynamics of sedimentation, by P. D. Trask. Origin of soils, by Hans Jenny. Geophysical problems in applied sedimentation, by R. F. Berry. Principles of soil mechanics as viewed by geologists, by C. A. Kays. Sedimentation and ground water, by F. C. Foley. Part II, Engineering problems involving strength of sediments: Facies, the problems of sedimentary rocks, by S. S. Philbrick. Earth dams, by T. A. Middlebrook. Geologic aspects of soft ground tunneling, by Karl Terzaghi. Sedimentary geology of the alluvial valley of the lower Mississippi River and its influence on foundation problems, by W. J. Terzaghi and others. Part III, Applications of processes of sedimentation. Relation of landforms to sedimentary features, by D. J. Varney. Permafrost, by R. F. Black. Geology in shore-control problems, by M. A. Manna. Stream-channel control, by S. C. Hays. Sedimentation in reservoirs, by A. L. Fry. Problems of irrigation canals, by A. R. Gabel. Effects of soil conservation, by C. B. Moore. Part IV, Applications involving nature of sediments. Influence of sedimentation on concrete structures, by Roger Roshan. Application of studies of the composition of clays in the field of concrete, by R. E. Olson. Foundry sands, by H. Rist. Part V, Economic mineral deposits: The field of economic geology of sedimentary mineral deposits, by V. E. McKelvey. Sedimentary iron deposits, by S. A. Tyler. Geochemical prospecting for ore, by H. E. Haskin. Part VI, Petroleum geology problems. Sedimentary hydrocarbons, by D. A. Beach. Porosity permeability and capillary properties of petroleum reservoirs, by C. D. Russell and P. A. Dickey. Carbonates porosity and permeability, by W. C. Lund. Part VII, Military applications. Sedimentary materials in military geology, by F. C. Wharmser. Applications of sedimentation to naval problems, by R. D. Russell. Author Index. Subject Index.

Note: Military survey of the aspects of sedimentation, sedimentary rocks, and other sedimentary deposits. Much of it practical character to emphasize. The typical chapter is essentially an outline of high quality, couched with good list of references for those who wish to read further. An unusual feature is the inclusion in most chapters of a few paragraphs on research which is still needed.

VOLCANOLOGY AND SEISMOLOGY

GUTENBERG BENO AND C. F. RICHTER

Seismicity of the earth and associated phenomena. Princeton Princeton University Press 1949 273 p. illus. 28 cm. \$10.00 513

Contents (abbreviated): Materials used. Methods used. Classification of shocks. Magnitude. Frequency and energy of earthquakes. Structure of the earth. The chromo-Picard belt. The Alpidic belt. Mid-Alpidic Alid-Alpidic zone. Oceanic acid belts. With some secondary material on stable areas. Minor seismic areas. Minor seismicity. Stable areas. Tremors (submarine waves). Mechanisms. Summary. References. Tables. Index.

Note: A scientific study and compilation of data pertaining to the geophysical and geological character of the areas of the earth where seismic activity occurs and to the relative seismicity of these areas. The tables which are detailed presentations of observations of earthquake shocks occupy 149 of the book's pages. They are preceded by short narrative discussions of such topics as the methods used in the study, the frequency and energy of earthquakes, and of the geophysical and geological of active regions. The work comprises two papers by the same authors that appeared in 1941 and 1943 in the publications of the Geological Society of America.

LEET LEWIS DON

Earth waves. Cambridge, Mass. Harvard University Press and New York John Wiley & Sons Inc. 1950 122 p. 22 cm. \$3.00. 514

Contents: The measurement of earth waves. Observed types of earth waves. Transmission of earth waves. Mechanisms. Index.

Note: Although earthquakes were as discussed along with other types of waves, this is not primarily a book on earthquake phenomena. Instead it deals briefly with the subject of waves that are transmitted through the earth. Thus it has bearing on geology.

BIOLOGY

GENERAL

ALLEY, WARDER CLYDE, AND KARL P. SCHMIDT

Ecological animal geography Second edition An authorized edition rewritten and revised, based on *Tiergeographie auf oekologischer Grundlage* by the late Richard Hesse. New York John Wiley & Sons Inc., 1951 715 p. illus. 24 cm. \$9.50 534

Contents: (abridged) Part 1 The ecological foundations of zoogeography: The conditions of existence for animals. Barriers to distribution and means of dispersal. The effect of geographic isolation. The influence of extent of range. Biogeography and biogeography. Part 2 The distribution of marine animals: The chemistry of the sea and its influence on animal life. The biotic divisions of the ocean. Geographic divisions of the animal communities of the sea. Part 3 The distribution of animals in inland waters. Phases of zoogeography. The environmental factors in inland waters. Communities in running waters. Communities in other inland waters. Part 4 The distribution of land animals: Zoogeographic factors of the land and their effect on animals. Forest communities. Animal life of steppes and deserts. Alpine animals. Island communities. Subterranean animal life. The effect of man on the distribution of other animals. Index.

Note: One of the more important studies of animal distribution and of the influence of environment and animals upon each other. The first edition of the book was largely a translation of Hesse's *Tiergeographie auf oekologischer Grundlage*, 1914. The present revision, although still based on the German work, has been so extensively rewritten and enlarged as to read almost as new work. Specifically new material has been added on such topics as aerial transportation in distribution, biogeography, coral reefs and islands, Hesse's fauna, and viviparous in biotopes. The data concerning the number of species in various regions have also been revised, and the chapter biogeography has been brought up to date.

BATES MARSTON

The nature of natural history New York Charles Scribner's Sons, 1950 309 p. 24 cm. \$3.50 535

Contents: The science of natural history. The meaning of organisms. The catalogue of nature. The history of organisms. Reproduction. The development of the individual. The environment. Biotic communities. Partnership and cooperation. Parasitism. The behavior of individuals. The behavior of populations. Biological geography. Adaptations. The mechanism of evolution. Natural history and human economy. The natural history of materials. Tactics, strategy and the goal. Appendix. The literature of natural history. Index.

Note: Is this book by an author biologist the source of variety of topics in natural history is rendered in non-technical terms for the general reader. In his discussion of such topics as bird migration, the author does not attempt to cover the subject or even present an outline. Instead, he states some of the more interesting facts, then leaves it to the reader to pursue the subject further if he wishes. The appendix is a generalized discussion of the literature of natural history with particular mention of only a few titles, and the list of references is selected list of books designed for the guidance of readers who wish to pursue reading in the field.

BONNER, JOHN TYLER

Morphogenesis, an essay on development. Princeton New Jersey Princeton University Press, 1952 296 p. illus. 23 cm. \$5.00 536

Contents: Introduction. Size and pattern. Physics and chemistry in development. Patterns of growth. Patterns of morphogenesis. Movement. Polarity and asymmetry. Patterns of differentiation. An analysis of development. Bibliography. Index.

Note: This study by a member of the faculty of the Department of Biology at Princeton University is primarily an analytical survey

of the current state of the knowledge of morphogenesis. The author divides morphogenesis into constructive processes, particularly growth, morphogenetic movements and differentiation, and limiting processes, such as food supply. He draws an analogy between growth and crystal formation but carefully points out that we do not know whether the processes that operate in the growth of crystals also operate in living organisms. The work is substantial enough to be of interest to professional biologists, but the style is not too technical for scientists who are not biologists nor for masters by students.

CAMERON GLADYS

Tissue culture technique. Second edition, revised and enlarged. New York Academic Press, Inc., 1950 191 p. illus. 24 cm. \$4.20 537

Contents: Introduction to tissue culture. Basic considerations of tissue and equipment. Details of equipment. Sterilizing procedures. Physiological solutions. Plasma and serum. Preparation of tissue extracts. Artificial media. Preparation of tissues. Choice of methods for culturing. Cultures on coverslips. Cultures in flasks. Cultures in roller tubes. What one sees in tissue cultures. Some experimental procedures. Micro-manipulation of tissue cultures, by Robert Chesner. Histological techniques. Fluorescence of tissue cultures, by G. D. Green. Appendixes: List of procedures to tissue growth. Conversion tables. Sources of supply for special tissue culture materials. Bibliography. Supplementary references. Index.

Note: (1950) A book manual of tissue culture techniques based on the guidance of tissue concerned with that branch of biological experimentation. Details are presented in sufficient fulness to be helpful both to the beginner and to the more experienced technician. In the revision every chapter has been revised and almost entirely rewritten.

DICK, LEE R.

Natural communities. Ann Arbor University of Michigan Press, 1952 547 p. illus. 26 cm. \$5.50 538

Contents: (abridged) Some important kinds of communities. Methods for describing and measuring communities. Effects on communities of fluctuations in the physical conditions of their habitats. Food relations within communities. Fluctuations in populations. Fluctuations in community composition. Relations of organisms to their communities. Home ranges and territories. Effects of social behavior on the community. Ecological relations between species. Community equilibrium. Effects of communities on their physical habitats. Ecological succession. Local and geographic variation within communities. Relations between communities. Classification of communities and microcommunities. Larger units of community classification. Evolution of communities. Philosophy of community. Literature cited. Index.

Note: A substantial introductory survey of the current knowledge of the ecological principles of plant and animal communities under natural conditions. It is introductory in the sense that no previous acquaintance with ecology on any part of the reader has been presumed. However, the reader does need an understanding of the general principles of biology. Along with the discussion of principles the author mentions great variety of facts culled from the literature and gives references from the text to the source articles.

FRESENDEN G. R.

Preservation of agricultural specimens in plastics. Washington D. C. Government Printing Office, 1949 78 p. illus. 23 cm. (United States Department of Agriculture. Miscellaneous publication no. 679) Paper \$0.35 539

Contents: Introduction. Part 1 Preservation of natural color in plant specimens mounted in plastic plates. Equipment and supplies. Types of preserving fluids and their principal characteristics. Col-

Individual. Section four: The evolution of biological systems; The doctrine of organic evolution. Index.

Note: The title and the content of this textbook for introductory college courses indicate the author's purpose of presenting well-rounded pictures with emphasis on principles. There are long discussions of such aspects as nutrition, whereas the discussions of classification are much shorter than in some introductory texts. There is an adequate number of illustrations, but not lavish display such as is found in some contemporary textbooks in this field. The author is Professor of Biology in Bryn Mawr College.

HARDIN GARNETT

Biology its human implications. Second edition. Illustrations by Evan L. Gillespie. San Francisco California W. H. Freeman and Company 1952 720 p. illus. 24 cm. (A series of biology texts editors George W. Beadle and others) \$5.00 553

Contents (abbreviated) Part one, Introduction to the science of biology. Part two, The measure of man. Skeletal and muscular systems of man. The circulatory system. Digestion and nutrition. The respiratory system. The excretory system. Diseases; antibodies; blood transfusion. Nervous impulses, consciousness, and reflex action. The organism as a whole. The senses. Human reproduction. Part three, Heredity. The particulate nature of inheritance. Genetic aspects of some human problems. Sex and growth. Interactions of heredity and environment. Part four, Evolution and the living world: The theory of evolution. Names and aims of evolutionary. The concept of the least by plants. Some aspects of reproduction and evolution in plants. Some invertebrate animals, and evolution to the land. Part five, The web of life. What is life? The transformations of matter in nature. Energy and population problems. Man—evolution in the future. Bibliography. Index.

Note: In this textbook for introductory college courses the emphasis is on general principles and on their significance for man. A considerable number of topics not ordinarily discussed in introductory texts—for instance, the logic of blood tests in cases of disputed paternity—are discussed. On the other hand little space is given to systematic. The book is well illustrated and adequately indexed. The author is a member of the faculty of Santa Barbara College of the University of California.

MARSLAND DOUGLAS

Principles of modern biology. A complete reconstruction and modernization of Charles R. Plunkett's *Elements of modern biology* revised edition New York Henry Holt and Company 1951 757 p. illus. 25 cm. \$6.25 554

Contents (abbreviated) Part I, The cell. Protoplasm, the cell, and the organism. Division as relation to reproduction. The chemical and physical structure of protoplasm. Enzymes—speed and order in cell chemistry. Osmosis—osmotic exchange between the cell and the environment. Cells and their activities. Responses to single cells. Part II, Multicellular plants: Reproduction in multicellular plants. Nutrition of multicellular plants. Part III, Multicellular animals, especially man. Embryonic development—origin of organs and tissues. The digestive system in man and other multicellular animals. The circulatory system. Absorption, metabolism and the diet. Respiration. Excretion. Reproduction in multicellular animals. The endocrine glands. Responses of higher animals. Part IV, Heredity and evolution. Natural selection—the scope of species. The consequences of evolution. Ecology and evolution. Appendix: Classification of organisms. Glossary. Index.

Note: (1951) A standard textbook for introductory college courses. The biology is emphasized but the view of the living world is sufficiently broad to meet the needs of the intended readers. In this edition considerable number of illustrations are revised or newly added, there is new chapter on ecology and evolution, and new discussions of such topics as virology and antibiotics.

MAVOR, JAMES WATT

General biology. Fourth edition. New York The Macmillan Company 1952 875 p. illus. 24 cm. \$5.75 555

Contents (abbreviated) Part I, The nature of life: The scientific method and its application to biology. The general characteristics of living things. The classification of plants and animals. The cell.

Protoplasm. Part II, Plant life: The Chlamydomonas. Bacteria. Lichens and mosses. The ferns and their relatives. The alternation of generations and its significance. Seed plants. Plant physiology. The economic importance of plants. Part III, Invertebrates: Unicellular animals. Sponges animals with ectoderm and endoderm. Phlebotomus. The round worms. The segmented worms. The arthropods. Part IV, Vertebrate anatomy and physiology based on the dog and man. External features, skeleton, joints, muscles, and body cavity. The digestive system. The respiratory and excretory systems. The circulatory system. The nervous system. The sense organs. The endocrine system. Part V, Development and heredity. Part VI, The organic world and its evolution: The history of life on the earth. The history of the theory of evolution. The evidence for organic evolution. The mechanisms of organic evolution. Early man. Appendix: A synoptic table of the plant and animal kingdoms. References and background material in chemistry. Glossary. Index.

Note: (1946) An established textbook for use in full-length introductory college courses. The treatment places emphasis on the scientific method and stresses phenomena and facts which can easily be verified in the college laboratory or from common experience. In the present edition there has been some reorganization, some revisions and some addition of material that did not appear in the third edition. Also considerable number of new illustrations have been added.

MILNE, LORUS JOHNSON, AND MARGERY J. MILNE

The biotic world and man. New York Prentice-Hall Inc. 1952 588 p. illus. 26 cm. (Prentice-Hall biological science series, Henry Burr Steinbach editor) \$9.00. 556

Contents: Approach to biology. The variety of life. The basic materials of life. Energy relations of life. Water relations of life. The forms of life: simple cells and animals—arthropods, plants—multicellular non-vascular—vascular. Chemical coordination. Water coordination and behavior. Carriers of heredity. Development of the individual. The structure of life. The history of life. The history of life. The value of life. Looking toward the future. Index.

Note: A college textbook for first courses in biology. The authors emphasize a group of the main features of biological processes rather than the memorizing of the details of classification. Much more space is devoted to functions than to form. The book is written in a clear factual style that holds the reader's interest, and it is very well illustrated.

MOMENT GAIRDNER B.

General biology for colleges. Second edition. New York Appleton-Century-Crofts, Inc., 1950 680 p. illus. 25 cm. (The Century biological series Dwight E. Minnich, editor) \$5.50 557

Contents (abbreviated) Foundations of biology. Classification of the living world. Universal characteristics of living things. Survey of plant types and ways of life. Plant life—conducts, support, and absorption—metabolism—reproduction—behavior and growth. Relationships of plants and animals. Animal types. Animal life—relationships—cooperation—communication—cooperation—communication. Reproduction. Development. Heredity. Evolution—the origin of species. History of life on this planet. Classification of the plant and animal kingdoms. Glossary. Index.

Note: (1948) An introductory textbook of biology. The authors' attention is given to the experimental evidence upon which the facts and principles of modern biology rest. Throughout the book human biology is related to the biology of other forms of life. It is generously illustrated. The previous edition was published in 1943. In preparing this edition the authors added many new illustrations, considerable amount of new text, and revised the reading lists.

STANFORD ERNEST ELWOOD

Man and the living world. Second edition. New York The Macmillan Company, 1951 863 p. illus. 22 cm. \$5.50 558

Contents (abbreviated) What we, science and living things. Our position. The green plant—manufacturer of foodstuffs and of raw materials for industry. Unit three, The human body—its structure and functions. Unit four, The maintenance and health of the body—food, nutrition, poisons, and disease. Unit five, Microorganisms and their relation to human life. Unit six, A survey of the animal

Kingdom. Unit eight, A survey of the plant kingdom. Unit eight, Evolution and heredity. Unit nine, Domestication and breeding of plants and animals. Unit ten, The biological resources of the United States and their utilization. The soil. Forest resources of the United States. Characteristics of wild life. Index.

Notes. (1341) A textbook designed for use in introductory courses in biology. It covers the beginning student's view of not only the nature of biology but also of the applications of biological sciences to many fields such as agriculture, public health, ecological and historical systems, the study of heredity, breeding of domestic animals, and conservation of natural resources. Both the text and the illustrations are designed to hold the attention of the beginning student. The first edition was published in 1940. The general plan and considerable part of the contents of the book remain unaltered in this edition. However, information has been added on a number of topics such as the effects of radiation on heredity in human beings. Also historical and economic data have been brought down to date. There are now 417 figures.

STAUFFER, ANDREW editor

Introductory biology Authors Nelly J. Bokna, E. C. Collin R. Clark Gilmore, S. W. Howe, W. Henry Leigh, P. Meglitsch, H. C. Nelson, J. F. Schuett, Andrew Stauffer and J. P. Wessel. New York: D. Van Nostrand Company Inc., 1949. 722 p. illus. 24 cm. \$5.50 559

Contents: Introducing living organisms. How organisms survive. How organisms transport materials within their bodies. How organisms utilize food and excrete wastes. How organisms coordinate their activities. How organisms reproduce. How organisms inherit. How species originate. How organisms live with each other. How man may live healthily. Bibliography. Glossary. Index.

Notes: A textbook organized so as to emphasize the fundamental unity of life and the similarities among the physiological processes of living things. There is secondary emphasis on man, not only upon his life processes but also upon his influence on nature in such aspects as the destruction of wild life. The book is well suited for use in "cultural" courses whose purpose is to indicate students about biology and to indicate its scope rather than to prepare them for further specialization in the field.

WELLHOUSE, WALTER HOUSLEY AND GEORGE O. HENDRICKSON

College biology Fourth edition. Ames Iowa State College Press 1951. 371 p. illus. 23 cm. \$4.00 560

Contents (abridged): Part I, Protoplasm, its form and activities as shown in human organisms. Part II, Structure and activities of complex animals. Part III, How organisms are classified. Part IV, Structure and activities of chordate animals. Part V, Development of animals and plants. Part VI, Behavior and heredity. Part VII, The struggle for existence and adaptation. Index.

Notes: (1343) A successful college textbook of the "cultural" type, designed to give students who are not majoring in biological sciences a general fundamental understanding of biology. Its attempt is made to cover the whole animal kingdom. The third edition appeared in 1944. In preparing this edition several chapters on higher plants of the first edition were omitted and the chapter on the grasshopper was added. Other revisions were made in both the text and illustrations.

WINCHESTER, ALBERT McCOMBS

Biology and its relation to mankind. New York: D. Van Nostrand Company Inc. 1949. 777 p. illus. 23 cm. \$5.75 561

Contents (abridged): Part I, Foundations of biology: The fundamental unit of life—the cell. The nature of protoplasm. Vital life processes. The classification of living things—taxonomy. Part II, The plant kingdom. Part III, The higher plant body. Part IV, The animal kingdom. Part V, The higher animal body: The skeletal system. The muscular system. The nervous system. The respiratory system. The digestive system. The circulatory system. The excretory system. The reproductive system. The endocrine glands, regulators of the body. Part VI, Some important divisions of biology: Microbiology—the study of microscopic organisms. Entomology—the study of insects. The orders of insects. The bridge of heredity. The principles of heredity. Osteology of the chordates. Histology

evolution—the concept of descent with change. Life of the past. Human life of the past. The founders of biology. Glossary. Index. **Notes:** A textbook designed for use in introductory courses in college. Life processes are stressed rather than taxonomic aspects. A wealth of material on various phases of the subject is presented to stimulate the interest of the beginning student. Illustrations, many of them from photographs by the author add to the attractiveness of the volume.

WOODRUFF, LORANDE LOSS, AND GEORGE ALFRED BAITSELL

Foundations of biology Seventh edition. New York: The Macmillan Company 1951. 719 p. illus. 22 cm. \$5.50 562

Contents (abridged): The scope of biology. Cellular organization of life. The physical basis of life. Metabolism of organisms. The plant body. The animal body. Nutrition. Respiration. Secretion. Excretion. Circulation. Nervous system. Reproduction and cell division. Reproduction and germ cell formation. Reproduction and fertilization. Animal development. Reproduction in plants. Genetics. Origin of species. Organic adaptation. Biology and human welfare. Origin of life. Survey of the plant kingdom. Survey of the animal kingdom. The human background. History of biology. Bibliography. Glossary. Synoptic classification of the plant kingdom. Synoptic classification of the animal kingdom. Index.

Notes: (1345) An introductory textbook that has been widely used in American colleges covered since the publication of the first edition in 1925. Although shorter than many books of the kind, it is a general treatment and the style is not so compact that it is difficult to read. Professor Baitzell is responsible for the seventh edition. The number of chapters has been increased by six, and there has been some rearrangement of chapter order and material within the chapters carried over from the previous edition. Also there has been some revision of the illustrative matter.

YOUNG, CLARENCE WHITFORD AND G. LEDYARD STEPHENS

The human organism and the world of life. Revised edition. With the editorial assistance of Richard M. Eakin and E. R. Hall. Illustrations by Louise Bush. New York: Harper & Brothers, 1951. 897 p. illus. 24 cm. \$6.00. 563

Contents (abridged): Part one, The human organism. Protoplasm and the cell. The architecture of the body. The nervous system. The circulatory system. The chemical control of bodily activities. The growth of the scientific tradition. The development of embryology. Reproduction. Digestion and absorption of food. The balance of materials in the body. Reproduction. The principles of heredity. The sense organs. Metabolism and excretion. The evolution of the mind. Emotional adjustment. The struggle against disease. Part two, The world of life. Metabolism in the plant kingdom and in the world of life. The simpler forms of plant life. Man, growth, and reproduction in the higher plants. Adaptations of organisms. Communities of organisms. The fact of evolution. Human evolution. Appendix: The branches of biological science. Suggested reading. Index.

Notes: (1346) An introductory survey which was originally developed as a result of experimentation in the teaching of biology to freshmen students at Columbia University. It gives the student an appreciation of the scope and potentialities of the biological sciences and guides him toward his own biological nature and his relationship to the world of life. It is particularly suitable for use in the "cultural" type of course offered to students who will take no more courses in biology. The first edition appeared in 1938. Significant changes in the edition include newly added chapters on scientific method, on heredity and that, and on communities of plant and animal life. Changes have been made throughout the book in the text, illustrations, and reading lists.

CYTOLOGY

BROOKHAVEN NATIONAL LABORATORY BIOLOGY DEPARTMENT

The chemistry and physiology of the nucleus. Proceedings of the symposium held August, 1951 by the Biology Department,

Brookhaven National Laboratory New York
Academic Press Inc., 1952 402 p. illus 24
cm. (Experimental cell research. Supplement
2 1952) \$7.00 564

Contents: Problems in nuclear chemistry and biology by K. G. Rana. Interrelations between nucleus and cytoplasm—problems at the biological level, by J. Schaefer. The role of the nucleus in protein synthesis, by F. Harwitz and C. F. Crampson. Nucleoproteins of the nucleus, by A. W. Pollster. Quantitative optical techniques in the study of nuclear chemistry, by M. J. Kline. The lampbrush chromosomes of *Theraps viridescens*, by J. G. Gall. The enzymes of isolated nuclei, by A. L. Demere. Histochemical demonstration of nuclear enzymes, by A. R. Morfitt. Evidence for the polynucleotide nature of cytoplasmic ribosomes, by F. Beckley. Organization and function of the laminae of the nucleus, by D. F. Paulsen and V. J. Kovar. Studies on the metabolism of the nucleic acids, by A. Bendich. Specificity in the composition of nucleic acids, by G. R. Wall. Chemical action of X-rays on nucleic acids and related substances in aqueous systems, by G. Scholes and J. Wain. Relationships between ionizing radiation chromosome breakage and certain other nuclear disturbances, by A. H. Spurr and others. Chromosome metabolism as shown by autoradiography, by R. D. Peck and Allen Howard. Effects of purines and other chemotherapeutic agents on nuclear structure and function, by J. J. Rine and others. The effect of colchicine on the microscopic and submicroscopic structure of the mitotic spindle, by S. David. Current status of the bacterial nucleus, by E. D. Delamar and others. The origin of bacteriophage nitrogen, carbon, and phosphorus, by F. W. Putnam. The fate of the infective virus particle, by L. M. Koshel. The biological nature of the bacterial transducing factors, by R. D. Hotelling. Author index.

Note. A collection of the papers together with transcripts from the discussions of them at the symposium appear in the book's title. The various papers summarize progress in variously such areas of investigation pertinent to the action of drugs on cells. They are addressed to professional biologists and other trained scientists. Although accompanied by extensive literature references, some of these contain information not previously published as well as that which has already appeared in the professional literature.

INTERNATIONAL REVIEW OF CYTOLOGY Volume
1. Prepared under the auspices of the International Society for Cell Biology Edited by
G. H. Bourne and J. F. Danielli. New York
Academic Press Inc. 1952 368 p. illus. 24
cm. \$7.80 565

Contents: Some historical lectures in cell biology by Arthur Hughes. Nuclear reproduction, by C. Leonard Haskins. Enzymic capacities and their relation to cell structure in animals, by George W. Kielder. The application of freezing and drying techniques in cytology, by L. O. E. Bell. Enzymic processes in cell membrane permeability, by Th. Kornhaas and W. Wubben. Bacterial cytology, by K. A. Smith. Protoplasmic surface enzymes and absorption of sugar, by R. Brown. Reproduction of bacteriophages, by A. D. Hershey. The folding and unfolding of protein molecules as basis of osmotic work, by R. J. Glick. Nucleo-cytoplasmic relations in amphibian development, by G. Finkbeiner. Structural agents in osmosis, by M. M. Brum. Factors that control the staining of tissue sections with acid and basic dyes, by Marcus Karger. The behavior of spermatozoa in the neighborhood of eggs, by Lord Ruckelshaus. The cytology of mammalian epidermis and mucous glands, by Wilhelm Montagna. The electron microscopic investigation of tissue sections, by L. H. Brinkhauser. The histochemistry of esterase, by G. Gomori. Author index. Subject index.

Note. The first volume of an annual that will provide for cytology periodical collections of short monographs similar to those that have been published for some time in *Artemesia* and other scientific fields. As indicated by the title above, each monograph is devoted to specific area, generally one in which there is much current interest, or in which there have been important new advances. The typical monograph is critical and rather concise digest of the related literature and is supplemented by substantial list of references. It is addressed to graduate students including not only biologists but workers in other fields who are for one reason or another in need of compact survey of cytological subject. In the present volume, seven of the contributors are British, five are Americans, one is Dutch, one Danish, and one Swiss.

SYMPOSIUM ON CYTOLOGY By William L.
Doyle, Hans Ris, Franz Schrader and C.
Leonard Haskins. East Lansing, Mich. Mich-

igan State College Press, 1951 69 p. 23 cm.
\$1.50 566

Contents: Quantitative aspects of the histochemistry of phosphates, by W. L. Doyle. Recent work on the chemistry of chromosomes, by H. Ris. A critique of recent hypotheses of mitosis, by F. Schrader. Science, cytology and society, by C. L. Haskins.

Note. A collection of original papers originally presented at symposium held at Michigan State College in 1950 and devoted to bringing to the attention of biologists in other fields some of the major problems, concepts, and directions in the field of cytology. Each paper has its own bibliography.

MARINE AND FRESHWATER BIOLOGY

LAGLER, KARL F.

Freshwater fishery biology. Dubuque, Iowa
Wm. C. Brown Company 1952 360 p. illus.
24 cm. \$5.75 567

Contents (abbreviated): Natural history and ecology. Freshwater fishes of North America, north of Mexico. The histories of fish and fisheries. This country. Fish embryology. Food habits. Age and growth. Fish populations. Yield analysis. Fish pathology. Fish culture. Fishery surveys of lakes, ponds, and impoundments. Improvement of lakes, ponds, and impoundments. Stream surveys. Stream improvement. Crocodiles of new fishing waters. Freshwater commercial fisheries. Freshwater recreational fisheries. Appendix. Index.

Note. A documented text and reference book for fishermen, students, teachers, and professional workers. It covers all phases of the subject and is well arranged and well illustrated. Bibliographical references are given at the end of the chapters. Particularly in the separate chapter on the histories of fish and fisheries.

MACGINITIE, GEORGE EBER, AND NETTIE
MACGINITIE

Natural history of marine animals. New
York McGraw-Hill Book Company Inc.,
1949 473 p. illus. 23 cm. \$6.50 568

Contents: Introduction. Food. Phylum. Distribution. Other subjects. Debris. Survival. Comparison between the fauna of land and of the sea. Overlap of animals. Animal relationships. The physical environment. T. each other. Some special. Land-animals. Marine animal habitats. Growth rates. Survival. Variation and succession. Descriptive periods left by natural selection. Protists. Fungi. Coelenterates. Crustaceans. Mollusks. Tardigrades. Tricladida. Coelom. Nemertea. Nematoda. Chaetognaths. Platyhelminths. Brachyopoda. Cephalopoda. Echinodermata. Annelida. Echinodermata. Asterozoa. Echinodermata. Ophiuroidea. Holothuroidea. Crustacea. Arthropoda. Crustacea. Amphipoda. Mollusca. Polychaeta. Cephalopoda. Amphipoda. Scaphopoda. Cephalopoda. Protostomata. Echinodermata. Tardigrada. Cephalopoda. Vertebrates. Cyclostomata. Pisces. Mammalia. The relations of higher vertebrates to lower chordates. Phyla of animals. General habitats of phyla and classes. Index dealing with marine animals. Index.

Note. This book on representative marine animals is designed for museum naturalists and for teachers and beginning students of zoology. The longest chapters are those dealing with the Arthropoda and the Mollusca, each about 75 pages; the chapter describing the vertebrates from the fishes to the true fishes, is about half as long. The species include at least one from each of the major groups of marine invertebrate animals, those chosen for description being those most frequently met with and those with the most interesting habits. Information on habits, habitats, and ecology is included in the descriptions. The majority of the illustrations are from photographs taken by the authors about the Pacific Coast of North America.

MINER, ROY WALDO

Field book of seashore life. New York G.
P. Putnam's Sons, 1950 888 p. illus. 19 cm.
\$7.00 569

Contents: Phylum Protozoa—the simplest animals. Protozoan sponges. Coelenterates—the polyps. Coelenterates—the comb jellies. Platyhelminths—the flatworms. Nemertea—the ribbon worms. Mollusca—mollusks—bivalves, gastropods, nautilus. Tricladida—the three-headed animals. Annelida—the segmented or ringed worms. Arthropoda—the crustaceans, insects, myriapods, and insects. Mollusca—the snails, bivalves, etc.

toes, scorpions, and squid. Chelicerates—arrow worms, Echinoderms—sea stars, brittle stars, sea urchins, sea lilies, and sea cucumbers. Phlebotomy—some ticks and leishmaniasis. Chordates—the protochordates and vertebrates. Selected references. Index.

Note. A field manual for use by amateur and professional naturalists in the rapid identification of the invertebrate animals found in the shallow aquatic waters of the Atlantic coast of North America from Labrador to the Cape Hatteras region of North Carolina. Concise semi-technical descriptions of the various animals are supplemented by 111 plates in black and white and nine plates in color. Most of the plates contain drawings.

WELCH PAUL SMITH

Limnology Second edition. New York: McGraw Hill Book Company, Inc., 1952. 538 p. illus. 24 cm. (McGraw Hill publications in the zoological sciences, E. J. Boell consulting editor) \$8.50 570

Contents: Part I, Preliminary considerations: Introduction, inland waters, lakes, their origin and diversity. Part II, Nature of inland-water environments. Physical conditions and related phenomena. Chemical conditions and related phenomena. Part III, Biological conditions: Influence of physical conditions. Influence of chemical conditions. Organisms in inland waters. Plankton. Bacteria, other fungi, and the zooplankton algae. Larger aquatic plants and their limnological significance. Nekton. Reshans. Biological productivity. Part IV, Some special types of aquatic environments: Ponds, bog lakes. Part V, Lotic environments: Running waters in general. Bibliography. Index.

Note: (1431) An advanced college text on inland water life first published in 1934 and now extensively revised and enlarged. The level of treatment promises completion of basic limnology courses in biology, physics, and chemistry on the part of the reader. A brief history of the subject and analyses of physical and chemical phenomena are preliminary to the discussion of the biological aspects. Methods and practice for field and laboratory work are not covered. The extensive bibliography is checked and includes monographs and periodical literature through 1951 in English and other languages. There are 54 tables and 50 supplementary diagrams. The book is of interest not only to students of limnology but also to specialists in related fields such as ecology.

MICROSCOPY

BENNETT ALVA HERSCHEL, AND OTHERS

Phase microscopy: principles and applications. By Alva H. Bennett, Harold Osterberg, Helen Jupnik and Oscar W. Richards. New York: John Wiley & Sons, Inc. 1951. 320 p. illus. 23 cm. \$8.50 571

Contents: Introduction to phase microscopy. An elementary theory of phase microscopy. Instrumentation. The technique of phase microscopy. Phase microscopy in biology and medicine. Industrial applications of phase microscopy. Appendix: The diffraction theory of phase microscopy with Köhler illumination. Bibliography. Author index. Subject index.

Note. Phase microscopy is relatively new technique that is especially valuable in viewing transparent and nondiffracting material. When used in connection with biological research, it eliminates the need of laborious preparation staining of tissues and facilitates the examination of living material. Many articles have been written on the subject, but this appears to be the first book. It is technical, rather than popular, concise, and is designed primarily for research workers who make extensive use of microscopy. Theory, mechanical construction, and technique are all covered. There is comprehensive bibliography. The authors are associated with the research laboratory of the American Optical Company.

GRAY PETER

Handbook of basic microtechnique. New York: The Blakiston Company 1952. 141 p. illus. 24 cm. \$3.00 572

Contents (abridged): Part I, Materials and processes of staining: Materials and equipment. Fixation and fixation. Staining and staining. Dehydrating and clearing. Mounts and mountants. Making whole mounts. Making smears. Making sections. Clearing, labeling, and staining slides. Part II, Specific examples of slide-making. Index.

Note: Explicit instructions on the preparation of biological micro-

slides and the making of slides for microscopical examination is presented in this compact handbook. Materials, such as fixatives, and techniques, such as sectioning, are described in the first part. In the second part the making of fifteen slides of various complications is described in detail. These descriptions contain some line pictures that could not be incorporated in the more generalized material in the first section. There are fifty-seven figures. The book is suited to the needs of beginners and also to those of experienced laboratory workers. It makes biological slides only occasionally.

JONES, RUTH MCCLUNG, editor

McClung's handbook of microscopical technique for workers in animal and plant tissues By thirty five authors. Edited by Ruth McClung Jones. Third edition, revised and enlarged. With one hundred and fifty-seven illustrations. New York: Paul B. Hoeber Inc. (Medical Book Department of Harper & Brothers), 1950. 790 p. illus. 24 cm. \$12.50 573

Contents: Part I, General procedures and information. Basic methods for preparing microscopical slides, by R. H. Jones and C. E. McClung. Fixation and fixation, by R. Allen and C. E. McClung. Staining and staining, by E. J. Cline, Part II, Special procedures with limited applications. Methods of cytology, by C. E. McClung and others. Methods of embryology, by R. H. Jones. Methods of histology, by R. Jones and others. Methods of parasitology, by D. H. Wadsworth and W. F. Diller. Part III, Special procedures with general applications. Methods for study of fresh material, by M. H. Kinsley and others. Methods applicable to the study of both fresh and fixed materials, by H. A. Bennett and others. Methods for fixed materials, by D. A. Heller and others. Index.

Note. (1440a) A standard and widely used manual of fundamental principles, practical techniques, formulas, and literature references. In comparison to the preceding edition this one has been extensively revised so as to cover recent developments such as phase microscopy, polarized microscopy, new methods for mounting of specimens in plastics, and new formulas. Many of the sections are the work of new contributors. The number of illustrations has been substantially increased.

WYCKOFF RALPH WALTER GRAYSTONE

Electron microscopy: technique and applications. With 202 illustrations. New York: Interscience Publishers Inc. 1949. 248 p. 24 cm. \$5.00 574

Contents: Introduction. Electron microscope. Adjustment of the electron microscope. Preparation for electron microscopy. Metal shadowing and the visualization of very small objects. The use of surface replicas. The electron microscopy of particle suspensions. The electron microscopy of viruses. The photography of macromolecules. The structure of macromolecular solids. Index to text. Index to bibliography.

Note. The purpose of this volume is to provide laboratory technicians and students with brief descriptions of some of the successful applications made of the electron microscope, and to indicate its possibilities and limitations. Introductory chapters deal with the construction, operation and adjustment of such microscopes, but the main emphasis is on fields of application, especially in the biological and medical sciences. Each chapter includes an extensive bibliography and every excellent electron micrograph prepared by the author.

EVOLUTION

BLUM HAROLD FRANCIS

Time's arrow and evolution. Princeton, New Jersey: Princeton University Press, 1951. 222 p. illus. 24 cm. \$4.00 575

Contents: Perspectives. The chronology of evolution. The energetics and kinetics of chemical reaction. The origin and early evolution of the earth. Later history of the earth. The limits of the environment. The energetics and kinetics of living systems. Structure and its reproduction. Stability and variability. The origin of life. Irreversibility and direction in evolution. Some implications. Bibliography. Index.

Note. That the second law of thermodynamics ("Time's arrow") has determined the steps of life and the direction of evolution of living organisms is the central theme of this book. The work is mainly an accumulation of the evidence from various fields of science that appears to support the basic idea rather than the statement of a definite hypothesis. It is addressed primarily to scientists or at least to persons who are moderately familiar with the terminology and concepts of physical and aquatic chemistry. The style is lucid and the ideas advanced are well supported by references to the pertinent literature. In addition to its obvious interest to students of evolution, there are numerous ideas of value to biologists as well.

CLAUSEN, JENS

Stages in the evolution of plant species.
Ithaca, New York Cornell University Press
1951 206 p illus. 24 cm. \$3.75 576

Contents. Introduction. The evolution of our concepts of speciation. The local population as the basic evolutionary unit. The evolution of ecological races. The genetic systems of ecological races and morphological subspecies. The evolution of interspecific barriers. The evolution of groups of species. The physiologic genetic species concept and the dynamics of the evolution of species and genera. Bibliography. Index.

Note. A book based on long series of experiments conducted at the Royal Agricultural College in Copenhagen, Denmark, and at the Carnegie Institution in Washington by the author and his colleagues. The results, which illustrate the complexity of the evolutionary process, are not presented statistically but are stated incidentally in connection with associations drawn about the mechanism and direction of evolution among plants. The material was prepared and presented as the Messenger Lectures at Cornell University in the fall of 1950. The style is semi-technical but is well within the grasp of very educated persons. It is particularly familiar with botanical and genetic terminology. On the other hand, there is enough substance and original thought to make the book of interest to students scientists working in fields where the evolution of plants is of interest.

CLEMENTS, FREDERIC EDWARD AND OTHERS

Adaptation and origin in the plant world.
the role of environment in evolution. By
Frederic E. Clements, Emmett V. Martin,
and Frances L. Long. Photographs and draw-
ings by Edith S. Clements. Waltham, Mass.
The Chronica Botanica Company 1950 332
p illus. 4 cm. \$6.00 577

Contents. I. General laboratory and experimental grounds. Institutional. Factor (factors) and form. Behavior. II. Alpine laboratory and transplant systems. Institutional. Factor and control. Functions. Experimental. Controlled experiments. Experimental morphology. Physiology. Summary and conclusions. Appendix. Index.

Note. In this book, series of experiments that extended over forty years and was designed to shed light on further adaptation to environmental conditions is an evolutionary process or merely selecting-out of strains already present in the genetic constitution are described. In the course of the experiments plants were subjected to widely varying environmental conditions. The methods of investigation are described in detail and results are tabulated. The series of experiments was not completed, hence the book is not final report. Nevertheless it contains material of primary interest to research workers in plant genetics and ecology.

DODSON, EDWARD OTTWAY

A textbook of evolution Philadelphia W.
B. Saunders Company 1952 419 p illus. 24
cm. \$5.00 578

Contents. (abridged) Part I. A definition of evolution. Evolution by natural selection—Darwin's conception. Evidence of evolution, I.—homology. Evidence of evolution, II.—taxonomy comparative anatomy and comparative physiology. Evidence of evolution, III.—paleontology and genetics. The history of evolutionary thought. The two main problems of evolution. Part II. Phylogeny (evolution above the species level). The origin of life and the differentiation of the main animal kingdoms. The main lines of evolution among land plants. The main lines of animal evolution. The history of the primates. Part III. The origin of variation ("descent with modification"). Gene mutation. Chromosomal mutations. Part IV. The origin of species or the origin of discontinuity. Material selection.

Continuous vs. discontinuous variation. Isolating mechanisms and species formation. Polyploidy. Distribution of species. Index.

Note: The background and present status of evolutionary theory are well presented in this book. The author shows that evidence from several areas of scientific research is being found in modern synthesis to which such men as Dobzhansky, Goldschmidt, R. A. Fisher, Mayr, and E. B. Sauer have made substantial contributions. The chapter on the primates includes the new light shed on the evolution of man by the discovery of the pithecanthropus skulls. Although designed as an introduction to the subject for college students, the book is suitable for reading by anyone interested in survey of the contemporary situation in this field. The author is member of the faculty of the University of Notre Dame.

GREGORY, WILLIAM KING

Evolution emerging a survey of changing
patterns from primeval life to man. A col-
laborative work of the American Museum of
Natural History and Columbia University
New York The Macmillan Company, 1951.
2 vol. illus. 26 cm. \$20.00 579

Contents. (abridged) Volume I. Text. Part one. Time and evolution. Introduction, the cosmic changes. The first living things. The world of animals. Externally articulated animals (arthropods). Part two. Emergence of the vertebrates. Coelomate food-chains of diverse types (brachiopods, polychaetes, echinoderms). The prochordates and the problem of the origins of the vertebrates. The vertebrates come forth (fish-like ancestors of the vertebrates and some of their branches). Early experiments among streamlined predators (placoderms). Advanced predators of the shark tribe. The branching index of bony fishes. Part three. Air-breathing fishes. The air-breathing struggle for life. The air-breathers come up on land. From lowest marsh to forest and desert. Back to the water and down to the sea. The ridges of the sclerozoans (trilobites, graptolites and their allies). Bone-ridged reptiles (apsalosaurs, crocodiles and their allies). Bone-ridged reptiles (apsalosaurs, crocodiles and their allies). From shagreened reptiles to the rise and branching of the amniotes. From shagreened reptiles to the rise and branching of the amniotes. The dark ages of amniote history (mammals, mammals). Branching evolution in egg-laying and viviparous mammals. Rise of the placental mammals (the order form and lower forms of insectivores, tree-shrews, bats, chiroptera, rodents). Archaic and generalized carnivores, including seals (pinnipeds). Order form and lower forms among the hoofed mammals (ungulates). Falsifiable by convergence (cetaceans). Part five. The diverse paths to man. Origin, one and deployment of the primates. Man's path in the past. Part six. Evolution emerging, retrospect and prospect. Law and chance. Bibliography. Index of authors. General index. Volume II. Illustrations.

Note. The publication of this monumental work combines a plan formulated by three successive generations of Columbia University professors for a textbook covering the evolution of vertebrate animals from earliest times to the present. The first volume contains the text without illustrations but with references to the illustrations. The second volume contains 1018 pages of illustrations arranged under the same chapter titles as the text volume. In both volumes the details and evidences of vertebrate evolution are presented in logical order with attention centered especially upon the emergence of new skeletal patterns. The study of the skeleton is emphasized because of the opportunity it presents to combine and integrate the knowledge of both fossil and still existing animals. The bibliography, which is classified to correspond to the chapter arrangement, covers 144 two-columned pages. Both students of comparative anatomy and general readers who are concerned in any manner with the subject will find the work of great interest and importance.

PATTERSON, J. T. AND W. S. STONE

Evolution in the genus *Drosophila*. New
York The Macmillan Company 1952 610 p.
illus. 22 cm. \$8.50 580

Contents. Introduction. The problem. The genus *Drosophila*. Geographical distribution and speciation. Chromosome evolution in the genus *Drosophila*. Embryonic gland chromosomes. Gene reduction, selection, and genetic balance. Isolating mechanisms. The locomotion system and other isolating mechanisms. Hybrids and hybrid sterility. Evolution in the whole species group. Comparisons and conclusions. References. Index.

Note. A survey on experimental material the fruitflies of the genus *Drosophila* have contributed much to the development of our present knowledge of genetics. In this book the mass of accumulating knowledge about this genus is reinterpreted from the standpoint of evidence of evolution. Although the authors state that they have omitted certain contributions, the treatment borders on the encyclopedic. The style is compact and the text is supplemented by more

Over 100 tables. The bibliography runs to 28 pages. The work is major addition to the scientific literature of evolution.

SHULL, AARON FRANKLIN

Evolution. Second edition. New York: McGraw-Hill Book Company, Inc. 1951. 322 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences. E. J. Boell, consulting editor) \$5.50 581

Contents: The evolution concept over the centuries. Order in diversity among living things. Latencies implying kinship. Geographic distribution and the time and place of origin of species. Formis explained by evolution. Origin of man. Mechanisms of permanence and change. Primary variation. Genetic variation in wild populations. Recombination. Gene flow of evolution. Isolation. Geographic races and speciation. Societies of humans and man. Origin of life. Index. **Note:** (1348) A simple, straightforward introduction. The role of the genes in evolution is stressed, but adequate attention is also given to other aspects. The book is designed and written well as text for college courses, but it is equally suitable for first book for interested lay readers. The first volume was placed prominently in the genetic standpoint. In the present edition, published 13 years later, the chapters dealing with the genetic aspects have been largely rewritten. One of the principal changes is an account of polyploidy. There are 141 figures and a good index, but there is no bibliography.

SIMPSON, GEORGE GAYLORD

The meaning of evolution, a study of the history of life and of its significance for man. New Haven: Yale University Press, 1950. 364 p. illus. 21 cm. (The Terry lectures) \$4.00 582

Contents: Part I. The course of evolution. Geologic time. The beginnings of life. Major outlines of the fossil record. The history of the vertebrates. Records and reductions of reptiles. Outlines of the history of mammals. The history of the primates. Rates of evolution. First consequences from the record. Part II. The interpretation of evolution: The problems of problems. Organized evolution: orthogenesis and trends. The opportunities of evolution. Racial life and death. Forces of evolution and their interplay. The concept of progress in evolution. Historical prospects: the evolution of evolution. Part III. Evolution, humanity and other: Man, place in nature. The search for an order. The ethics of knowledge and of responsibility. The future of man and of life. Epilogue and summary. Index. **Note:** Edited by review with many other superficial interests in evolution concludes the natural sciences for this well-written, authentic book. Originally prepared and delivered at Yale University November, 1948, as the twenty-fifth series of Terry lectures, the material has been expanded and augmented without loss of the easy-to-read informal style of scientific lectures addressed to laymen. The evidence in support of evolution and the meaning of the evolutionary process to man as presented in a synthesis that employs evidence from pertinent branches of science and no interpretation that points out the ethical and cultural values. The author is Chairman of the Department of Geology and Paleontology in the American Museum of Natural History and Professor of Vertebrate Paleontology at Columbia University.

STEBBINS, GEORGE LEDYARD, JR.

Variation and evolution in plants. New York: Columbia University Press, 1950. 643 p. illus. 24 cm. (Columbia biological series. Number XVI. General editor: L. C. Dunn) \$8.00 583

Contents: Description and analysis of variation patterns. Examples of variation patterns within species and genera. The basis of inherited variation. Natural selection and variation in populations. Genetic systems as factors in evolution. Isolation and the origin of species. Hybridization and its effects. Polyploidy—Occurrence and nature of polyploid types—Geographic distribution and significance of polyploidy. Apomixis or the basis to variation and evolution. Structural hybridity and the genetic system. Evolutionary trends: The karyotype—External morphology. Plants, modern distribution patterns and rates of evolution. Works cited. Index. **Note:** An important contribution to the literature of evolution. It represents synthesis of knowledge from many fields, particularly paleobotany, genetics, cytology and, of course, systematic botany.

Plant variation and evolution is shown to be a complex process based on the accumulation of many small changes and taking place at three distinguishable levels: both the author terms, variation, microevolution and macroevolution. The work is essentially a masterly interpretation of the published literature including the author's own numerous papers. The list of works cited runs to 40 pages. The presentation is technical and is suited to advanced students and graduate scientists interested in such fields as evolution, genetics, and botany.

GENETICS

ADVANCES IN GENETICS. Volume III. Edited by M. Demerec. New York: Academic Press, Inc. 1950. 267 p. illus. 23 cm. \$6.80 584

Contents: Observations on the cytology of bacteria, by R. Dulbecco. Mechanical genetics of Neurospora, by M. H. Meselson. The phenomenon of position effect, by E. R. Lewis. The theory of positional recombination, by A. R. G. Owen. Cross breeding, by F. D. Richey. Parthenogenesis in animals, by E. Sennelschlag. Author index. Subject index.

— Volume IV. Edited by M. Demerec. New York: Academic Press Inc., 1951. 343 p. illus. 23 cm. \$7.50. 585

Contents: Physiological genetics of the mouse, by S. Gluschkow-Winkel. Developmental action of linked factors in Drosophila, by E. Heston. Localization and function of heteroduplexes in Drosophila melanogaster, by A. Benayahu. The genetics of Calfos, by C. A. Kray and A. Cavallini. The chromosomes of the vertebrates, by R. Moxley. Gene analysis and linkage relationship of characters in rice, by S. Nagai. Procedures and methods of cotton breeding with special reference to American cultivated species, by T. R. Rickard. Possible significance of duplication in evolution, by S. G. Stephens. Cytogenetics of orthopteran insects, by M. J. D. White. Author index. Subject index.

Note: (944) Two additional volumes in series which contains original monographs on selected genetic topics which are currently of interest to professional workers in the field. In most instances the author of the monograph has himself made valuable contributions to the subject of which he writes. However, the papers always include the pertinent background of other authors and are always accompanied by an extensive bibliography. The papers are addressed not only to scientists, but are actively engaged in research in genetics but also to workers in related fields such as plant breeding who desire to keep abreast of new developments. Not all of the contributors are American; writers from U. S. A. which is represented, Soviet, and Japan are represented as well as the U. S. A.

ANDERSON, EDGAR

Introgressive hybridization. New York: John Wiley & Sons, Inc., 1949. 109 p. illus. 22 cm. (Biological research series advisory board: Paul A. Weiss and others) \$3.50. 586

Contents: Introgression in man: typical example. The ecological basis of introgression. The genetic basis of introgression. Introgression in finite populations. Introgression and evolution. Special techniques for the study of introgression. Epilogue. Bibliography. Index.

Note: The term "introgressive hybridization" designates the repeated backcrossing of hybrids to one or both parents. This book is about the study of such hybridization in the field under natural conditions, that is, introgressive hybridization outside the laboratory and the breeding plot. It deals particularly with how the effects of hybridization can best be measured in natural populations and what is the nature of the forces at work in such populations. All relevant literature dealing with the problem, which has been given intensive study chiefly since 1919, is summarized, at the same time, and deal of the material is original.

CLEVELAND, LEMUEL ROSCOE

The whole life cycle of chromosomes and their coiling systems. Philadelphia: The American Philosophical Society, 1949. 100 p. illus. 30 cm. (Transactions American Philosophical Society New series—vol. 39 part 1) Paper \$1.50 587

Contents: Introduction. The genus *Helicoverpa*. Species of *Helicoverpa* in *Protoparce*. *Helicoverpa* *hians* sp.

Note: Original papers first presented in June, 1950 at Iowa State College are collected in this volume. The speakers and audience were drawn largely from scientists engaged in research on genetics, plant breeding, etc., and the papers are addressed to graduate scientists with similar interests. Bibliographical references for all the papers are collected in a single bibliography.

LERNER, I. MICHAEL

Population genetics and animal improvement as illustrated by the inheritance of egg production. New York. Cambridge University Press, 1950 342 p. illus. 22 cm. \$5.50

593

Contents: Introduction. Historical. The genetic improvement in egg production. Early selection experiments. The partitioning of egg production records. The polygenic approach. The production index and its components. The University of California tests. The fundamental postulates of applied population genetics. Genetic relationship. Heritability. The principles of selection. Expected genetic gain. Mating systems. The bases of selection. Interrelations between traits. Selection indexes. Miscellaneous. Disease resistance. The family structure of stocks under selection. The maintenance of unrelated populations. Short-cuts to measurement. Special mating techniques. The outlook. Glossary of symbols and definitions. Bibliography and author index. Subject index.

Note: This is an important treatise in the field of applied population genetics based largely upon experimental work in poultry at the University of California. As the heart of the subject is of statistical nature, the reader or student of the book will need a college knowledge of genetics, including working facility in biometry and simple variance analysis, in order fully to follow the presentation. However the work is not entirely mathematical, and many parts of it will be intelligible to biologists and breeders without special training in mathematical genetics. The book is especially intended for research workers, teachers, and advanced students of genetics in relation to breeding.

NATIONAL RESEARCH COUNCIL. COMMITTEE ON COMMON PROBLEMS OF GENETICS, PALEONTOLOGY, AND SYSTEMATICS

Genetics, paleontology and evolution. Edited by Glenn L. Jepson, Ernst Mayr and George Gaylord Simpson. Princeton, N. J. Princeton University Press, 1949 474 p. 24 cm. \$6.00.

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Contents: I. Geological time: Time in earth history by Adolph Knapp. II. Perspectives on evolution: *Genes and character* by Carl Stern. *Genes, homologies and the structure of *Drosophila* hybrid*, by W. F. Spencer. The evidence afforded by fossil vertebrates on the nature of evolution, by D. M. S. Watson. *Comparative anatomy and the evolution of vertebrates*, by D. D. Davis. *Recent aspects of plant morphology and evolution*, by Theodore J. Van Wazer. *Evolutionary trends: Some studies and trends in animal evolution*, by A. S. Bower. On the evolution of the Dandelion, by T. S. Whittell. *Evolutionary rates and trends in rhesus monkeys*, by H. E. Wood. III. Evolutionary trends in the angiosperms, by R. W. Chacey. IV. Evolutionary rates: Rates of evolution in mammals, by G. O. Simpson. Rates of evolution in plants, by G. L. Stebbins. V. Rates of evolution in invertebrates, by Bryan Patterson. Specialized: Speciation and systematics, by Ernst Mayr. The significance of ecological isolation, by David Lack. Early stages in algaean speciation, by E. R. Ford. Patterns of evolution in the grass *Rumex*, by J. A. Moore. Increased variability in populations following natural hybridization, by William H. Bennett. Evidence for the genetic substructure of *Phlox maculata*, by H. L. Manton. VI. Adaptation: Adaptation and selection, by Sewall Wright. Progresses adaptations as seen in the fossil record, by K. H. Culbert. VII. Human evolution: Human evolution, past and future, by J. B. Haldane. VIII. Summary: Reintegration of the Symposium on Genetics, Paleontology and Evolution, by H. J. Muller. Glossary Index.

Note: This work represents planned effort to synthesize thought from the fields of genetics and paleontology that has bearing on evolution and to remove certain differences of terminology. The style of the papers is technical and the volume is intended chiefly for graduate scientists working in the these fields named in the title.

SINNOTT EDMUND WARE, AND OTHERS

Principles of genetics. Fourth edition. By Edmund W Sinnott, L. C. Dunn and Th.

Dobzhansky New York McGraw Hill Book Company Inc., 1950 505 p illus. 24 cm. (McGraw Hill publications in the botanical sciences, Edmund W Sinnott, consulting editor) \$6.00.

595

Contents: Genetics, the science of heredity and variation. Mendel's principles of segregation. Mendel's principle of independent assortment. Affixion. The expression and interaction of genes. The multiple-factor hypothesis. The physical basis of inheritance. Genes and chromosomes. Linkage and linkage maps. Chromosome aberrations and cytological maps of chromosomes. Mutation. Genes in populations. Genetics of race formation. Genetics of species formation. The determination of sex. Genetics and development. The cytoplasm in heredity and development. Gene action and the nature of the gene. Appendix. Index.

Note: (1937) The first edition of this work was published in 1935, and it has held place since that time as standard text for college courses. Though introductory it provides fairly detailed presentation of genetic mechanisms and their effects on heredity and variation. The three chapters on "Genes in populations," "Genetics of race formation," and "Genetics of species formation" are new in this edition. Other important changes include revision presentation of chromosome mechanisms. The translation into English made by the Royal Horticultural Society of London of Mendel's "Experiments in plant hybridization" is quoted in full in the appendix.

SERB ADRIAN M., AND RAY D. OWEN

General genetics. Illustrated by Evan L. Gillespie. San Francisco California W H. Freeman and Company 1952 561 p. illus. (part col'd) 24 cm. (A series of biology texts editors George W Beadle and others) \$5.50.

596

Contents (abbreviated): Inherited patterns in living things. Units of inheritance. Two or more pairs of alleles. The impact of environment. Sex chromosomes and sex linkage. The vehicles of inheritance. Life cycles. Linkage, crossing over and chromosome mapping. Chromosomal aberrations and position effects. Mutation. Extra-nuclear inheritance. Genetic aspects of sexuality and sex determination. Quantitative inheritance. Inbreeding and selection. Genes and cellular machinery. Genes and development. Heredity in populations. Genetics and evolution. Breeding better plants. Genetic aspects of animal productivity. Genetics and the welfare of the human individual. Index.

Note: As introductory textbook for use in college courses, it is written in a clear, explicit style and the verbal expression is supplemented by excellent illustrations. The scientific aspects of the subject are well presented. The authors have included much information on the applications of the knowledge of genetics in plant and animal breeding. An extremely wide selection of problems is included and the lists of references include short annotations.

BIOLOGICAL PHYSICS

FINK, ROBERT MORGAN, editor

Biological studies with polonium, radium, and plutonium. New York McGraw-Hill Book Company Inc., 1950 411 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI—Volume 3) \$5.50

597

Contents: Part I. Distribution and secretion of polonium: Introduction, by H. K. Sallerstein. General methods used in polonium distribution and secretion experiments, by A. T. Goshall and others. Polonium distribution and secretion experiments with animals, by H. K. Sallerstein and others. Studies of polonium metabolism in human subjects, by H. K. Sallerstein and others. Part II. Distribution and secretion of radium. Miscellaneous background, by H. K. Sallerstein. General methods used in radium distribution and secretion experiments, by H. K. Sallerstein. Radium distribution and secretion studies with rats, by H. K. Sallerstein. Part III. Toxicity of polonium, plutonium, and radium in rats: Pilot studies on the intravenous lethal dosage of polonium, plutonium, and radium in rats, by G. A. Boyd and others. Miscellaneous studies on the intravenous lethal dosage of polonium, plutonium, and radium in rats, by G. A. Boyd and others. Appendix. Index.

Cytoplasm, body fluid volume and absorption. Special preparations. Appendixes. Index.

Note: A laboratory manual for use in introductory laboratory courses offered to advanced students of biology chemistry and other fields where radioactive isotopes are used in research. The fundamentals are presented in the first four chapters, and the next four chapters describe 18 different experiments planned so that they require only the most readily available radioactive materials. The appendices contain useful general information for radio laboratories, including: list of supplies of apparatus, etc. Bibliographical references appear at the ends of the chapters and at the ends of the experiment descriptions.

SIRI WILLIAM E. AND OTHERS

Isotopic tracers and nuclear radiations, with applications to biology and medicine. By William E. Siri. With contributions by Ellsworth C. Dougherty [and others] New York McGraw Hill Book Company Inc., 1949 653 p. illus. 23 cm. \$15.00 602

Contents (abridged): Part I, Isotopes and nuclear radiations. Properties of alpha, gamma rays, beta particles, protons, deuterons, and alpha particles. Neutrons. Part II, Methods and instruments: Indirect methods for measuring detectors, by J. E. Robertson. Mass spectrometry. Geiger-Müller counters. Proportional counters. Ionization chambers. Standardization of radioactive samples, by C. A. Tobias. The micrograph, by P. P. Weyersbach. Internal dosimetry. The preparation of thin films of radioactive elements for recovery of radioactive elements, by E. W. Dunn. The safe handling of radioactive materials. The electrostatic generator. The cyclotron. The betatron. The synchrotron. Part III, Biological and medical applications of isotopes: General outline of the biological applications of isotopes, by E. C. Dougherty. Elements constituting major general metabolites, by E. C. Dougherty. Trace elements known to be essential in animals and plants, by E. C. Dougherty. Elements not

known to be essential to life, by E. C. Dougherty. Isotopes in therapy and diagnosis, by E. C. Dougherty. Bibliography. Index.

Note: A technical reference book of comprehensive scope intended for the scientist using isotopic tracers and nuclear radiation in medical and biological research. Much of the data is presented in tables with accompanying text and figures. Underlying physical principles, practical methods of applications, with descriptions of processes and instruments, are covered concisely. The 90-page bibliography was compiled by E. C. Dougherty. The Seaborg and Fermi tables of isotopes covers pages 187-359 at the end of Part

UBER, FRED MUNY, editor

Biophysical research methods. New York Interscience Publishers Inc., 1950. 667 p. 24 cm. \$9.50 603

Contents: Avoid friction experiments, by F. M. Uber. Osmotic pressure measurements, by D. R. Briggs. Centrifugation, by E. G. Pickle. Viscosity measurements, by L. V. Hallgren. Temperature determinations, by L. R. Frosty and J. D. Hardy. Calorimetric measurements, by Max Klaber. Quick-freezing and the freezing-dryed process, by E. W. Hoehner. Conductive measurements, by H. J. Corliss. Electrodes, by D. R. Briggs. Ultrasonic vibrations, by E. G. Grant. Jr. When to use special microscopes, by O. W. Richards. Electron microscopy by James Miller. Action spectra, and absorption spectra, by H. F. Hines. X ray and X irradiation, by J. W. Cowen. Electrons, neutrons, and alpha particles, by L. O. Gray. Stable isotopes as tracers, by F. M. Uber. Radioactive tracers, by A. F. Voigt. Subject index.

Note: A full-scale presentation of physical laboratory methods which are applicable to research in biology, medicine, and agriculture. The authors of the various chapters have assumed that their readers will be familiar with standard laboratory methods and instruments. Their papers are addressed to such readers as graduate students of the sciences, laboratory assistants, and experienced research workers who need guidance in the use of recently developed methods. Literature references accompany all of the chapters, and some of the chapters are supplemented by lists of sources of supply.

BOTANY

GENERAL

ANDERSON EDGAR

Plants man and life. Boston Little Brown and Company 1952 245 p. Illus. 20 cm. \$4.00

604

Contents: Men and his transported landscapes. The history of weeds—a detective story. The greater paradox. The clue from the root tips. The clue from diversity or science and the bourgeoisie. How to measure an weeds. Budgets vs. scholarship. Unconquered history. Dreams began and the origin of agriculture. A roster of our most important crop plants and their probable origins. Sweeteners—the one native American crop. Advertisers in chaos. Suggested reading index.

Note. A well-written popular book about history and the work of professional botanists. There is some emphasis on matters which would classify as economic botany; however one of the outstanding chapters describes statistical method in studying plant variations. Any nature reader interested in plants will find the book to be rewarding reading. Furthermore, it can be studied as an example of the interpretation of sciences for lay readers. The author is Assistant Director of the Missouri Botanical Garden.

CLEMENTS FREDERIC EDWARD

Dynamics of vegetation selections from the writings of Frederic E Clements. Compiled and edited by B W Allred and Edith S. Clements. New York: The H. W. Wilson Company, 1949. 296 p. illus. 23 cm. \$3.75.

605

Contents: Plant succession and human problems. Competition in plant societies. Plant indicators. Nature and structure of the climate. The reflect method in dynamic ecology. Climate, succession and conservation. Climatic cycles and human populations in the Great Plains. Ecology in the public service. Glossary. Index.

Note. A compilation of previously published writings by botanist who made life-long study of ecology first at the universities of Nebraska and Minnesota, later and until his death at the Carnegie Institution of Washington. The illustrations are from photographs and are reproduced on 70 plates, two to a plate.

FINAN JOHN V

Maize in the great herbals. With a foreword by Edgar Anderson. Waltham Mass. The Chronica Botanica Company 1950 191 p. illus. 26 cm. \$3.00 606

506

Contents (abridged) Males to post-conquest Hispanic America: Descriptions of males by Spanish chroniclers. Use of males by the natives of the New World. Males in the great hermits of Europe: Discussions of males in the hermits—The German hermits—The Italians in the Low Countries—The Italian hermits—The Spanish hermits—The hermits in Switzerland—The English hermits. Appendixes: The words of the great hermits. Passages from original texts omitted and translated. Bibliography.

Note. A scholarly study of the history of the introduction of meadows into Europe. It is based on a detailed study of descriptions and illustrations in herbaria. The author shows that two general types of meadows are represented in these works, one of which may have been brought to Europe from Asia, the other of which was undoubtedly brought to Europe from America by Columbus and other Hispanic explorers. The book is thoroughly documented, also it contains reproductions of about 25 illustrations of the meadow plant that originally occurred in the herbaria.

GRAY ASA

Gray's manual of botany Eighth (centennial) edition—Illustrated. A handbook of the flowering plants and ferns of the central and northeastern United States and adjacent Canada. Largely rewritten and expanded by Merritt Lyndon Fernald with assistance of specialists in some groups. New York American Book Company 1950 1632 p. illus. 23 cm. \$9.50

607

Contents. Preface. Synopses of the orders and families of vascular plants. Artificial analytical key to the families. Explanations of abbreviated names of authors. Other abbreviations and signs. Summary of the families. Descriptive fern. Glossary. Index to Latin names of families, genera and species. Index to English, French-Canadian and colloquial names.

Nata. Forty-*n* years have passed since the publication of the seventh edition of this classical reference book. Since the period was one of the most active in botanical research on the part of both professional botanists and amateurs, the changes in this edition are many. In the seventh edition 4,833 species, varieties, and names were described; the comparative number for this edition is 5,000. The number of illustrations has been increased to 1,908. In addition, important changes have been made in grouping, nomenclature, and illustrations. The book remains the standard systematic description of the flora found in the regions named in the

JOHANSEN DONALD ALEXANDER

Plant embryology embryogeny of the Spermatophyta. Waltham Mass. The Chronica Botanica Company 1950 305 p. illus. 27 cm. (A new series of plant science books, edited by Frans Verdoorn. Volume xxiv) Paper \$6.00 608

509

[illegible]

Note. A systematic discussion and summary of knowledge in the field of the embryology of cypriniforms and lampreys is planned. It is limited to characteristics of embryogenesis, embryoclecinosis, metamorphosis and embryology with ecological relevance to such aspects as morphogenetics and fertilization. References to the literature in English, French, German, and Italian are found at the ends of the sections. The original manuscript was completed in 1944; additions were subsequently made to bring the literature up to the end of 1966.

KELLEY ARTHUR PIERSON

Mycotrophy in plants lectures on the biology of mycorrhizae and related structures. Waltham, Mass. The Chronica Botanica Company 1950 223 p illus. 23 cm. (A new series of plant science books edited by Frans Verdoorn. Volume xxxi) \$5.00 609

79

Contents. The rise of mycotrophic study. The occurrence of mycorrhizas. The fungal mycotrophs. Fungal mycorrhizas. Distribution of mycotrophic plants. Mycotrophic plants and their environ-

seeds. Mycorrhizae and mycorrhizomers. Mycorrhizoids. Structure of mycorrhizae. Oblique symbiosis. Theories of mycorrhizae. Mycorrhizal phylogeny. Bibliography. Subject Index. Index of plant names.

Note: A survey of the current knowledge of mycorrhizae. The author believes that the mycorrhizae represent a type of fungus symbiosis and that they are essential to the existence of many host plants. However, he also presents the conflicting views held by other authorities. Although organized as lectures under the subheadings noted above, the book is essentially a digest of the published literature down to 1947.

LAWRENCE, GEORGE HILL MATHEWSON

Taxonomy of vascular plants. New York: The Macmillan Company 1951. 823 p. illus. 22 cm. \$7 95 610

Contents: Part I, Principles and practice of plant taxonomy: Introduction. Taxonomy and its significance. History. Classification. Principles of taxonomy. Physiological considerations. Current systems of classification. The geography of vascular plants. Microtaxonomy and cytogenetics. Plant nomenclature. Plant identification. Field and herbarium techniques. Monographs and revisions. Floristics. Literature of taxonomy history. Part II, Selected families of vascular plants: *Psittacanthaceae*. *Elaeagnaceae*. *Myricaceae*. *Gymnosperms*. *Angiosperms*. Appendixes: Suggested syllabus for elementary course. Illustrated glossary of botanical terms. Index.

Note: A basic textbook for college students who are majoring in systematic botany. Its explanation and scope reader it suitable also for use as a reference book in personal and public libraries. The first part runs to page 311 and includes the theoretical and general material as well as useful guides to the professional literature. The second part runs from page 313 to 774 and contains of systematic descriptions with illustrations and literature references for considerable range of plant families. An extensive glossary with illustrations occupies page 777 to 778. The author is Professor of Botany at the Bailey Hortorium of Cornell University.

SASS JOHN EUGENE

Botanical microtechnique. Second edition. Ames: The Iowa State College Press 1951. 728 p. illus. 23 cm. \$3.50 611

Contents: Part I, General principles and methods: Introduction. Collecting and preserving plant materials. Killing, fixing, and storing plant tissues. Dehydration for embedding. Infiltration and embedding in paraffin wax. Microtome sectioning of material in paraffin. Staining paraffin sections. The collection method. Sectioning wax-embedded tissues. The preparation of whole mounts and sections. Criteria of successful processing. Part II, Specific methods: Introduction. Vegetative organs of vascular plants. *Thallophytes* and *Bryophytes*. Vegetative structures of vascular plants. Microscopic construction, use, and care. Photomicrography Index.

Note: An introductory manual designed primarily for use in instruction rather than for reference. Nevertheless the descriptions of techniques are specific and few selected formulas are included. The author is Professor of Botany in Iowa State College.

TEXTBOOKS

FULLER, HARRY JAMES

The plant world: a text in college botany. Revised edition. New York: Henry Holt and Company 1951. 769 p. illus. 22 cm. \$5.25 612

Contents: (abridged) Part I The structure, physiology and reproduction of flowering plants: The nature of plant science. Seed structure and germination. The gross structure and activities of plant cells. The microscopic structure of plants. The physiology of plant cells. The structure and physiology of roots. The structure of stems. The properties and uses of wood. The structure and economic importance of leaves. Metabolism. Growth and irritability. The structure and functions of flowers. Fruit development and structure. Part II The plant kingdom: The classification of plants: Algae—bacteria (Chlorophyta)—Mycophyta (Algae fungi)—Mycophyta—Fungi—Lycophytes—Gymnosperms—Angiosperms—Gymnosperms. Part III The distribution of plants in time and space: Plant evolution. The relations of plants to their environments. Appendix. Glossary. Index.

Note: A clearly written and well-illustrated work which is intended for use in short introductory courses. About twice as much space is given to anatomy and physiology as to taxonomy. The first edition

appeared in 1941. In this edition the descriptions of the various plant phyla have been somewhat enlarged. Also substantial number of illustrations have been added, and in the appendix there are now short discussions of the growing of plants in nutrient solutions and the production of seedling trials by the treatment of flowers with hormones and other chemicals.

FULLER, HARRY JAMES, AND OSWALD TIPPO

College botany. New York: Henry Holt and Company 1951. 993 p. illus. 24 cm. \$6 75 613

Contents: (abridged) Part I, The nature of plants and plant study: Part II, The structure, physiology and reproduction of flowering plants: Seed structure and germination. The microscopic structure of plants, cells and tissues. The physiology of plant cells. Seeds and the relation of seeds to milk. The internal structure of stems. The properties and uses of wood—economic importance of stems. The structure and economic importance of leaves. Metabolism. Growth and irritability. The structure and functions of flowers. Fruit development and structure. Vascularization and heredity in plants—plant breeding. Part III, The plant kingdom: Plant names and classification. *Thallophytes*. Plant diseases. *Bryophytes*. *Thallophytes*. Part IV, The distribution of plants in time and space. Part V, Plants and man. Glossary. Index.

Note: A textbook for use in full-length introductory course in colleges. In it the authors have striven to meet the needs of both students who are studying the subject for career reasons and those who plan to pursue the subject further than an introductory course—hence the inclusion of material on such topics as the uses of wood as well as on such topics as plant physiology. There is fair value of illustrations. Lists of additional readings are included, and the 26-page glossary is useful feature.

HILL JOHN BENJAMIN AND OTHERS

Botany: a textbook for colleges. By J. Ben Hill the late Lee O. Overholts and Henry W. Popp. Second edition. New York: McGraw-Hill Book Company Inc., 1950. 710 p. illus. 24 cm. (McGraw-Hill publications in the botanical sciences, Edmund W. Sinnott, consulting editor) \$6 00 614

Contents: (abridged) Part I, Structure and physiology of seed plants: Characteristics in plants. Plant cells. Leaves. Metabolism—food synthesis. Roots. Absorption of water and inorganic salts. Stems. Growth and movement. Flowers. Fruits, seeds and seedlings. Part II, The plant groups: Plant classification and nomenclature. *Thallophytes*. *Bryophytes*. *Thallophytes* or vascular plants. Functions of angiosperms. Kinship. Index.

Note: (1427) An introductory textbook for full-length college courses. No single aspect of the subject is emphasized; instead, the student is given a broad view of the field and, also, considerable detailed information. In this edition material has been added on selected developments that have occurred since 1934 including cytogenetics, hormones, and the uses of microscopes in botanical research. Several chapters have been rewritten, and many of the 315 figures have been improved.

HYLANDER, CLARENCE JOHN AND ORAN B. STANLEY

College botany: a basic course in plant science. New York: The Macmillan Company 1949. 638 p. illus. 24 cm. \$5.50 615

Contents: (abridged) Part one, The plant organism: The plant cell. Leaves. Synthesis of food. Roots. Absorption of inorganic nutrients. Construction of substances. Water loss from plants. Plant reproduction. Reproduction by vegetative propagation. Seeds and seed germination. Part two, The plant world: The classification of plants. *Thallophytes*—the non-vascular plants. *Chlorophytes*—the green algae. *Mycophytes*—plants without chlorophyll. *Bryophytes*—problems of the plant world. *Spermatophytes*—plants with seeds. *Gymnosperms*—cone-bearing plants and their relatives. *Angiosperms*. Plant communities and plant succession. Heredity as a factor in plant evolution. Development as a factor in plant evolution. Plant life through the ages. Appendix. Check list of common and scientific names of plants described in the text. Index.

Note: A well-illustrated introductory text. A little over one-third of the space is used for discussion of classification and descriptions of major plant groups. The remainder is devoted to discussion of general aspects as indicated by the chapter titles. There are 431

Illustrations, all of good quality. The second-named author is Associate Professor of Botany at Colgate University and the first-named was formerly Chairman of the Botany Department in the same university.

ROBBINS, WILFRED WILLIAM, AND T. ELIOT WILKER

Botany: an introduction to plant science.
New York John Wiley & Sons Inc. 1950
480 p. illus. 25 cm. \$6.00 616

Contents: Introduction. The plant world. Classification and naming of plants. The plant body of seed plants. The plant cell. The stem. The roots. The leaf. The flower. The fruit, seed, and seedling. Inheritance. The plant as living mechanism. The groups of plants. The fossil plants. The algae. The fungi. The viruses. The bryophytes. The vascular plants. Evolution. Index.

Note: A college textbook which is shorter and more lavishly illustrated than some textbooks written at this level. It is suited to the needs of students whose main interest in the subject is cultural. Its simplicity also lends it to the needs of some lay readers who wish to study the subject without the benefit of an instructor. The authors are members of the faculty of the College of Agriculture of the University of California.

WILSON CARL L.

Botany With line drawings by Hannah T. Crossdale. New York The Dryden Press
1952 483 p. illus. 26 cm. \$6.50 617

Contents: The science of botany. Plants, their nature and use. The plant place and its modifications. The cell as the basis of plant life. The matter and mechanics of cells. Photomicrographs and the leaf. Respiration and digestion. The structure and growth of stems. Plants and water. The root and the soil. Natural cycles and plant life. Growth and movement. Vegetative reproduction. The flower and seed production. The fruit, the seed, and seed germination. Plants in their environment. Some plants selected. The mechanism of evolution. The major and kinds of plants. The algae. The bryophytes. Ferns and moss. The gymnosperms and the angiosperms. The seed plants. The ferns. Early land plants and their evolution. The club mosses and the bryophytes. The gymnosperms. The angiosperms. Glossary. Index.

Note: An introductory textbook written at the college level and designed primarily for students who do not plan to major in botany. A general but fairly comprehensive view of the field is given with the emphasis on basic knowledge and functions rather than classification. The illustrations are of excellent quality and are numerous. The printing is in red and black. The author is Professor of Botany in Dartmouth College.

BOTANY OF VARIOUS REGIONS

ABRAMS LEROY

Illustrated flora of the Pacific states
Washington Oregon and California. In four
volumes Volume III Geraniaceae to Scroph-
ulariaceae, geraniums to figworts. Stanford
Calif. Stanford University Press 1951 866
p. illus. 28 cm. \$17.50 618

Contents: (abridged) Chrysanthemaceae (continued) Symptlocaceae. Appendix. Index of genera and families.

Note: (1944) The third volume published of monumental reference book designed for the use of professional botanists and others who are interested in the native plants of the Pacific states of the United States of America. It is intended to include descriptions of every species of fern, flower tree, and shrub known to grow wild in these states. The organization is systematic and the plant descriptions are couched in the scientific terminology of botany. However the author has given not only the scientific names but also English and Indian and Spanish-California names. The illustrations are clearly reproduced in black-and-white line drawings.

BILLINGTON CECIL

Ferns of Michigan Bloomfield Hills Mich.
Cranbrook Institute of Science 1952 240 p.
illus. 24 cm. (Cranbrook Institute of Science.
Bulletin no. 32) \$5.00 619

Contents: Introduction. Pictorial glossary. Systematic checklist. The ferns of Michigan. Hybrid. Michigan's fern flora as compared with that of North America. Glossary. Fern literature. Index.

Note: Essentially a systematic description of native species of ferns indigenous to the state of Michigan. Particular attention is given to identification and distribution and each description is accompanied by line drawings and distribution maps. The book is written primarily for amateur botanists and gardeners, and includes material on the collection and cultivation of ferns in the home garden. However, the detailed tabulations of species names and distribution are also of value to the professional botanist.

BILLINGTON CECIL

Shrubs of Michigan. Second edition. Bloom-
field Hills, Mich. Cranbrook Institute of Sci-
ence, 1949 329 p. illus. 24 cm. (Cranbrook
Institute of Science. Bulletin no. 20) \$4.50
620

Contents: Introduction. Ecology. Distribution. Rare or indigenous species. Plant names and their authors. Plant names and their origin. The form and structure of shrubs. Keys to the genera of Michigan shrubs. Shrubs of Michigan. Glossary. Bibliography. Index.

Note: Although intended primarily for amateur use and limited to the shrubs that have been found to the state of Michigan, this work is at once more local interest. Many of the shrubs described are found also in many other states of the United States and in Canada. Drawings of the leaf, fruit and (sometimes) the flower are included for most of the plants described. The descriptions include the botanical name, the local popular name, information on the growth of shrubs and of ripening of the fruit in addition to descriptions in botanical terminology of the plant itself. The first edition was published in 1941. A number of new descriptions have been added in this edition and many descriptions omitted over from the previous edition have been revised or reorganized.

CLOKEY IRA WADDELL

Flora of the Charleston Mountains, Clark
county Nevada. Berkeley and Los Angeles
University of California Press 1951 274 p.
illus. 27 cm. (University of California publi-
cations in botany editors H. L. Mason and
others Vol. 24) \$3.75 621

Contents: Introduction. History of botanical exploration. The Charleston Mountains. Vegetational and floristic communities. Vascular plants of the Charleston Mountains. Pteridophyta. Spermatophyta. Index.

Note: A detailed professional study of the flora of an isolated mountain range in the northern part of the Mojave Desert. In the middle and higher elevations the rugged terrain rises which has been botanically isolated for many thousands of years. The author made field studies and made collections in the years 1935-1942. He was aware of the significance of the ecological aspects but most of the present book is devoted to systematic descriptions of the collected plants. A map of the region studied is included.

GENTRY HOWARD SCOTT

Land plants collected by the Velero III,
Allan Hancock Pacific expeditions 1937-1941.
Los Angeles California The University of
Southern California, 1949 245 p. illus. 24
cm. (Allan Hancock Pacific expeditions. Vol.
13 number 2) \$3.25 622

Contents: General introduction. Chemical records. Cedrus and Son
Borneo Islands. Revilla Gigedo Islands. Tres Marias Islands. California
Gulf region. Jalisco and Oaxaca. Costa Rica. Palms. Index.

Note: The Allan Hancock Pacific expeditions 1937-1941 were primarily concerned with marine biology. Nevertheless some in-
cluded land plant collections were made and are described in this
volume. The book contains both generalized descriptions of the floras
of particular islands and other land areas and short descriptions of
species. It has both ecological and taxonomic interest.

HOWELL JOHN THOMAS

Marin flora. Manual of the flowering plants
and ferns of Marin county California. Photo-

graphs by Charles T. Townsend. Berkeley Calif. University of California Press, 1949 322 p. illus. 22 cm. \$4.50 623

Contents (abridged) Introduction: Location and physiographic features. Geologic structure and rocks. Soils. Climate and weather. Life zones and plant associations. Effect of the flora. Numerical analysis of the flora. Geographic distribution of plants in Marin county. Marin county flora and flora of Coast Ranges. Endemic plants. Miscellaneous plants. Early botanical explorers. Later botanical explorers. Key to the genera and families. Enumeration of the flora. Taxonomic references. Glossary of technical terms. Index: scientific and common names is the enumeration of the flora. Map of Marin county California. Place names on map of Marin county. MT. Tamalpais and vicinity. Place names on map of Mount Tamalpais and vicinity.

Note: Marin county is the county occupying the peninsula immediately to the north of the Golden Gate. It covers 320 square miles, yet it is estimated its flora represents approximately 15% of the flora of the entire state of California. This volume is complete guide to the flora of the county published for amateur and professional botanists alike. Following the introductory pages, the plants of the county are named in systematic order and after the name are recorded the localities in Marin county where found, with occasional other descriptive and taxonomic notes. Keys are provided for the identification of families, tribes, genera, and species, with an extensive glossary for those unfamiliar with the language of botany. The book is based upon field work by the author in Marin county over a long-year period. Totals of 1313 species and 144 named varieties and forms are compiled. The 25 photographs plates show landscapes and plants, especially trees, of the county.

JONESTON, IVAN MURRAY

The botany of San Jose Island (Gulf of Panama). With seventeen plates and two text figures. Jamaica Plain Mass. The Arnold Arboretum of Harvard University 1949 306 p. illus. 25 cm. (Sargentia. A continuation of the Contributions from the Arnold Arboretum of Harvard University No. 8) Paper \$6.00 624

Contents: Physical features and history of the island. General characteristics of the flora. Types of natural vegetation. Grassland. Thicket. Marsh forest. Scrub forest. Marine forest. Dendroecious forest and other vegetation on this island. Scrambling forest. Coastal-wood forest. Beach vegetation. Growth on dunes. Low-lying woods. Economic plants. Natural history of forest vegetation. The forest floor. Strata in the forest canopy. Tree trunks. Vines and their role in the forest. Epiphytes. Air plants. Display of flowers. Characteristics of tropical foliage. Fall and renewal of leaves. Fruits and seeds in beach drift. Identification. Key to the trees and shrubs. Key to the vines. Key to the epiphytes. Catalogue of flowering plants. Notes botanical notes. Index.

Note: A treatise that provides detailed description and distribution of the vegetation and flora of San Jose, an island 3 miles long about 50 miles off the Pacific and of the Panama Canal. The study was initiated in 1944 because of the location on the island of tropical testing ground for the Chemical Warfare Service of the United States Army. The data are presented with a minimum of botanical phraseology so that Army personnel working in the forests of the island and other visitors from the United States may find the report as interesting as the professional botanist. Technical matter interesting only to botanists is included, but appears in segregated paragraphs, so that the general reader may skip it. The catalogue of flowering plants, which comprises about three-fourths of the text, contains descriptions of 611 species known to grow without cultivation on the island. Included is the account of each species as the author's observations regarding its behavior and distribution on the island, together with some descriptive details useful in identifying the plant.

JONES GEORGE NEVILLE

Flora of Illinois. Second edition. Notre Dame The University of Notre Dame Press, 1950 368 p. 24 cm. (The American midland naturalist. Monograph no. 5 Edited by John D. Mittle) \$4.25 625

Contents: Flora and vegetation. Description of the area. Vegetational divisions. Systematic treatment. Key to the sections. Key

to the families. Keys to the genera and species. Bibliography. Taxonomic monographs and reviews. Author Index. Glossary Index. of plant names.

Note: A manual based on material in the herbarium of the University of Illinois and in other herbaria in the state. It covers all native and naturalized species of vascular plants reported by the writer as growing spontaneously in Illinois. Approximately twenty-two hundred species are described. The descriptions are in technical terminology and the arrangement is conventional. Numerous keys are included to facilitate identification. The bibliography includes the taxonomic monographs that are useful in the study of Illinois plants. Since the flora of Illinois is similar to the flora of considerable adjacent areas, the work is of some interest to botanists making studies outside of that state.

KEARNEY, THOMAS HENRY, AND OTHERS

Arizona flora. By Thomas H. Kearney Robert H. Peebles, and collaborators. Berkeley and Los Angeles University of California Press 1951 1032 p. illus. (part col'd) 24 cm. \$7.50 626

Contents: Introduction. Botanical explanation. Part one. The physical background and vegetation of Arizona. Topography. Geology and soils. Climate. Vegetation is related to physical conditions. Life forms. Part two. The flora of Arizona: Plan of the book. Geographic elements of the flora. Taxonomic composition of the flora. Key to the phyla. Phycophyta—algae and less allies. Sporophytes—flowering plants. Plants. Literature consulted. Glossary Index.

Note: A work designed as a reference book to be used in identifying "the approximately 3,500 species of flowering plants, ferns and fern allies known to be growing (or to have grown) without cultivation in the state of Arizona." A diverse flora ranging from arctic-alpine to subtropical is covered, reflecting the great ranges of altitude, rainfall, and soils found within the state of Arizona. Keys to families, genera and species are special features of the book. Geographical ranges is indicated not only the state but also adjoining states. The illustrations consist of the photographs in color and 45 black-and-white reproductions of photographs.

McINN HOWARD EARNEST

An illustrated manual of California shrubs. Berkeley Calif. University of California Press 1951 663 p. illus. 24 cm. \$6.50 627

Contents: Introduction. Key to the genera. Key to the families. Descriptive account of the shrubs: 1. Gymnosperms, or cone-bearing shrubs and their allies. 2. Angiosperms, or true-flowering shrubs. Abbrev. Glossary of botanical terms. Index to names of species. Miscellaneous chapters. Bibliography Index.

Note: A systematic and descriptive account of the shrubs of California, written on the basis of twenty years of study of them in their native habitats. About 600 species are included, and the number of separate illustrations runs to 775. The work is of more than local interest, for most of the plants described are found in other regions also. The above is the second printing of the title, which was copyrighted by the author in 1939 and first published in that year by J. W. Steacy Inc.

SHREVE, FORREST

Vegetation of the Sonoran desert. Washington, D. C. Carnegie Institution of Washington 1951 192 p. illus. (part col'd) 25 cm. (Carnegie Institution of Washington. Publication 591 Vegetation and flora of the Sonoran desert, by Forrest Shreve and Ira L. Wiggins. Vol. 1) Paper \$3.25 628

Contents: Introduction. Physical features. Geography. Drainage systems. Mountain ranges. Climate. Soils. Perennial vegetation: General characteristics of deserts. The North American desert and its parts. Vegetational features of the Sonoran desert. Vegetational subdivisions of the Sonoran desert. Epithermal features. Vegetation. Water phenomena. Sonoran phenomena. Ecological features of characteristic species. Literature. Index.

Note: A monograph written on the basis of 40 years of study and field investigation of the subject by the late author. The final chapter describes the distribution, habitats, and ecological characteristics of 26 of the commonest plants of the Sonoran desert; 14 full-page distribution maps illustrate this chapter.

Note: The authors in preparing this textbook for college students taking first course in plant physiology assumed that readers will have had introductory courses in chemistry and either botany or biology. There is substantial emphasis on the biochemical aspects of plant physiology. Other aspects of plant physiology such as photosynthesis and water relations, are developed in detail. Each chapter closes with about two pages of bibliographical citations. The book incidentally stresses effective training in scientific methods.

FRANCK, JAMES, and WALTER E. LOOMIS, editors

Photosynthesis in plants. A monograph of the American Society of Plant Physiologists. Ames Iowa Iowa State College Press, 1949 500 p. illus. 24 cm. \$7.50 672

Contents: Photosynthesis—an introduction, by W. R. Loomis. Photosynthetic water field conditions, by M. D. Thomas and G. R. Hill. Products of photosynthesis, by J. H. C. Smith. Diffusion through multiphase media, by J. Verdoorn. The chloroplast: their structure, composition, and development, by R. Govick. Functions and properties of the chloroplast, by H. H. Strain. The photochemistry of chlorophyll, by R. Livingston. Chlorophyll studies, by P. Rabinowitch. Processes accompanying chlorophyll formation, by J. H. C. Smith. The quantum requirement of photosynthesis, by R. Emerson and M. S. Michelson. Quantum efficiency of photosynthesis in Chlorocella, by W. E. Mooney and R. M. Duggan. Quantum efficiency for photosynthesis and photoreduction in green plants, by P. P. Rabinowitch. A calorimetric determination of the quantum yield in photosynthesis, by W. Arnold. The photochemical absorption of various lines water by isolated chloroplasts, by A. S. Ball and C. S. French. Chlorophyll fluorescence as an energy reservoir for photosynthesis, by E. Katz. The relation of the fluorescence of chlorophyll to photosynthesis, by J. Franck. The pattern of photosynthesis in Chlorocella, by J. Myers. Some remarks on trace elements in photosynthesis, by M. D. Kamen. C^{14} in photosynthesis, by A. A. Benson and others. Kinetics of photosynthesis: introduction to photosynthesis, by A. H. Brown and others. Investigation of the chemical properties of intermediates in photosynthesis, by E. W. Threlkeld. The comparative biochemistry of photosynthesis, by C. Z. W. Hill. Index.

Note: Original papers prepared especially for this volume and series of papers prepared for symposium held at Chicago and sponsored by section of the American Society of Plant Physiologists have been collected in this volume. The result is an authoritative survey of current knowledge, problems, and research techniques. The intended audience consists of scientists working in the field or in related areas. References to pertinent literature accompany each paper.

KRAMER, PAUL JACKSON

Plant and soil water relationships. New York McGraw-Hill Book Company, Inc. 1949 347 p. illus. 23 cm. (McGraw-Hill publications in the botanical sciences, Edmund W. Sinnott, consulting editor) \$6 50 673

Contents: Historical introduction. Soil moisture relations. Factors affecting the supply of soil moisture. Measurement and control of soil moisture. Structure and growth of roots. Factors affecting the development of root systems. Root and stem pressures and excretion phenomena. Processes concerned in water absorption. Factors affecting the absorption of water. The absorption of solutes. Absorption defects and their effects on plants. Bibliography. Author index. Subject index.

Note: A textbook intended for teachers, investigators, and students in all fields of plant science who are interested in the principles governing plant and soil water relations. Following review of the early development of plant physiology the author proceeds to present the fundamental facts of the subject in relatively simple terms for the benefit of those working in the various basic and applied plant sciences rather than for specialists in plant-water relations. The author writes on the basis of a number of years of research on the absorption of water by plants. The bibliography extends to 36 pages.

MEYER, BERNARD SANDLER, and DONALD B. ANDERSON

Plant physiology. Second edition. New York D. Van Nostrand Company Inc. 1952 784 p. illus. 24 cm. \$8 50 674

Contents: The field of plant physiology. Properties of solutions. Cellular systems. Plant cells. Diffusion. Osmosis and osmotic pressure. Imbibition. The water relations of plant cells. The loss of water from plants. The osmotic mechanism. Factors affecting transpiration. The translocation of water. Sinks and soil-water relations. Absorption of water. The internal water relations of plants. Enzymes. The chlorophylls and the carotenoids. Photosynthesis. Factors affecting photosynthesis. Carbohydrate metabolism. Respiration. The mechanism of respiration. Fat metabolism. Absorption of mineral salts. Utilization of mineral salts. Nitrogen metabolism. Translocation of solutes. Plant hormones. Vegetative growth. Environmental factors affecting vegetative growth. Reproductive growth. Environmental factors influencing reproductive growth. Growth correlations. Germination and dormancy. Growth periodicity. Plant movements. Author index. Subject index.

Note: (1949) A thoroughly revised edition of a standard college textbook. Photosynthesis courses in general botany and general chemistry on the part of the student have been assumed. Like the original edition, the revision emphasizes experimental results and the interpretation of plant processes in terms of physicochemical principles. Most of the presentation is based directly on data selected from the original literature of the subject. In the new edition the chapters on various aspects of water relations have been somewhat enlarged, with corresponding expansion of the chapters on metabolic processes and growth. A new chapter on enzymes replaces the former chapter on digestion. The extensive bibliography at the end of each chapter is supplemented by the inclusion of each chapter have been brought up to date.

RABINOWITCH EUGENE I.

Photosynthesis and related processes. Volume II, Part I: Spectroscopy and fluorescence of photosynthetic pigments. Kinetics of photosynthesis. New York Interscience Publishers Inc., 1951 603-1208 p. 24 cm. \$15 00 675

Contents: Part Three, Spectroscopy and fluorescence of photosynthetic pigments. Absorption spectra of pigments in vitro. Light absorption by pigments in the living cell. Fluorescence of pigments in vitro. Fluorescence of pigments in vivo. Part Four, Kinetics of photosynthesis. Methods of kinetic measurements. External and internal factors in photosynthesis. Concentration factors. The light factor (I, intensity), II, maximum quantum yield of photosynthesis; III, photosynthesis and light quality; role of accessory pigments. Index.

Note: (1949) Advances in the knowledge of photosynthesis since 1945 due partly to the use of radioactive carbon as a tracer in studying photosynthetic processes, have been so substantial that volume II of this work is both continuous and supplementary to the first volume. The work remains comprehensive, critical digest of the published literature. It is addressed to workers in the field and to chemists and physicists about to begin research in it or for some other reason in need of technical review of its current state.

SKOOG FOLKE editor

Plant growth substances. Madison, Wis. University of Wisconsin Press, 1951 476 p. illus. 24 cm. \$6 00 676

Contents: Plant growth substances: The history and nature of plant growth hormones, by A. J. Hagen-Smit. The synthetic analogs: relations between structure and activity, by K. V. Thimann. Growth and structure of the primary root, by T. E. Korn. Mechanism of cell elongation, by H. Brixton. Control of division and its processes in plants, by A. F. Blakeslee. Twenty years of plant hormone research, by F. W. Went. Plant hormones in practice, by F. W. Went. Growth substances in plant metabolism, by E. H. Kaur. Changes in metabolism during growth and its inhibition, by K. V. Thimann and others. Stimulation of replication or relation to growth, by G. E. Avery. J. Respiratory changes in relation to growth, by F. G. Smith. Tissue responses to growth substances: Electrical polarity and control, by A. E. Schenk. Translocation of growth regulating substances and their effect on tissue composition, by J. W. Mitchell. Histological responses to growth-regulating substances, by J. M. Paul. Comparative effects of growth substances on stem anatomy, by R. E. Strickberger. Formative effects of hormone-like growth regulators, by F. W. Went. Practical applications of growth regulators: Vegetation control on agricultural land, by K. C. Bernier. Differential responses to crop plants, by R. E. Dandekar. Growth substances in relation to the production of true fruits, by F. E. Condit. Use of growth substances in tropical agriculture, by J. van Overbeek. Growth substances in vegetative development. The role of growth substances in vegetative development as exemplified in the

seed cultures, by F. R. White. Factors influencing the growth of plant embryos, by M. K. Thaler. Growth substances and the formation of buds in plant tissues, by F. Skocz and C. Tani. The development of stems and leaves, by F. W. Went. Growth substances in reproductive development: Chemical regulation of sexual processes in fungi, by J. R. Raper. The sexual substances of algae, by G. M. Smith. Growth regulating substances in relation to reproduction of some benthic plants, by A. K. Matsumoto. The induction of flowering with plant extract, by R. H. Roberts. Fruit development as influenced by growth hormones, by F. O. Gonsalves. The growth hormone mechanism in fruit development, by R. M. Maier. Growth substances in fruit setting, by S. H. Wilkner. Growth substances in pathological growth. Experimental induction and inhibition of overgrowth in plants, by R. S. de Ropp. *In vitro* experiments on viruses of pathological origin, by A. C. Hildebrandt. The interaction between causative agents in disease growth, by A. J. Eiker and J. E. Thomas. Deformities caused by insects, by T. C. Allen. Comparative studies of metabolism in insect galls and normal tissues, by K. H. Newcomb. Vitamins and amino acids as growth factors: Growth factors in bacterial cultures, by E. K. Sævi. Genetic aspects of growth responses in fungi, by E. L. Talbot. Vitamins and amino acid requirements for the growth of higher plants, by W. J. Eason.

Note: The papers published in this volume were presented in symposia meetings and round table discussions at the University of Wisconsin, September 6-7, 1949. They cover all aspects of the physiology, biochemistry, and agricultural uses of plant growth substances. Bibliographical references are printed at the end of each paper.

Truog, E. M. editor

Mineral nutrition of plants. Madison: The University of Wisconsin Press, 1951. 469 p. illus. 24 cm. \$6.00 677

Contents: Mineral nutrition of plants. World food possibilities and fertility status of our soils, by C. E. Kellogg and A. C. Orved. Physico-chemical and biological factors affecting nutrient availability in soils: Soil as a medium for plant growth, by E. Truog. The activities of cations held by soil colloids and the chemical environment of plant roots, by C. E. Marshall. The availability of soil nitrate, by R. Overstreet and L. A. Dean. Contact phenomena between adsorbents and their significance in plant nutrition, by H. Jørgensen. The effect of soil physical properties on nutrient availability, by J. B. Pugs and G. R. Bodman. Role of soil microorganisms in nutrient availability, by A. G. Norrman. Mechanism of entry and translocation of mineral nutrients in plants: The nature of the process of inorganic solute accumulation in roots, by T. C. Krayer. The mechanism of ion absorption, by H. Jørgensen. The translocation of nutrients in plants, by O. Reddick. Some field problems in plant nutrition. Control of nitrogen effects on McIntosh apple trees in New York, by D. Boynton. Production of vegetable crops for the canning industry, by J. R. Mott. Role of nutrients in plant nutrition: Growth and function as criteria in determining the essential nature of inorganic nutrients, by D. I. Arnon. Mineral nutrition in relation to the metabolism of plants, by W. F. Linker. Correlations between protein-carbohydrate metabolism and mineral deficiency in plants, by R. A. Roseburg. Modifying influence of various environmental factors upon mineral nutrition: Light as modifying influence on the mineral nutrition of plants, by R. B. Wilcox. Soil moisture and the mineral nutrition of plants, by C. H. Wadleigh and L. A. Richards. Environmental influences on the growth of sugar cane, by H. F. Gosselin.

Note: This volume is composed of original papers which were presented at symposia sponsored by the University of Wisconsin as one of the events in celebration of its centennial. In general the papers are addressed to graduate scientists who are concerned with research in connection with horticulture, plant biochemistry and plant physiology and they are written in technical terminology. Most of them are accompanied by references to the literature. There is no volume index.

ZOOLOGY

GENERAL

ALLER, WARDER CLYDE, AND OTHERS

Principles of animal ecology By W. C. Allen, Alfred E. Emerson, Orlando Park, Thomas Park, Karl P. Schmidt. Philadelphia W. B. Saunders Company 1949 837 p. illus. 26 cm. \$14.00 678

Contents: (abridged) Section I, The history of ecology. Section II, Analysis of the environment. The general environment. Heat, light, gravity, pressure, and sound. Currents of air and of water. The substratum. Physicochemical and chemical phases. Water. The atmosphere gases. Diets of soils as limiting factors. Constancy of environmental factors. Ecological relations of soil. Biotic factors in relation to individuals. Section III, Population. General properties of populations. Biological background for population studies. Certain demographic background for population studies. The growth laws of populations. Population factors and selected population problems. Animal aggregation. The organization of insect societies. Section IV, The community. Community organization—stratification—metabolism—perfection. Community succession and development. Biome and biotype in world distribution. Section V, Ecology and evolution. Ecology and genetic variation. Ecology and behavior. Adaptation. Natural selection. Evolution of interspecific interactions and the community. Bibliography and author index. Subject index.

Note: A presentation in the form of college textbook of the principles of ecology with emphasis on the animal factors. Throughout the work the authors give examples of the evidence on which the principles of ecology are based and frequent references are made to the bibliography of the subject, which covers more than 20 double-columned pages at the end of the book. The work may be used in university courses as textbook and by professional ecologists and other scientists as summary of the present status of animal ecology.

DEVOS, ALAN

This fascinating animal world. New York McGraw Hill Book Company Inc. 1951 303 p. illus. 21 cm. \$3.75 679

Contents: The nature of this book. Animals in general. Mammals. Birds. Insects. Snakes. Fish. Animal variety. The adventure of mankind. Index.

Note: A well-written book of miscellaneous information about animals. It provides authentic answers for such questions as "Can porcupines throw their quills?" "Can fish drown?" and "Is there such thing as a white elephant?" However, it is not more necessary for comments are such that practically everyone is made to through will gain a more profound understanding of animals and of life processes such as evolution and reproduction. The book is intended for popular reading and reference; hence, there are no references to related literature.

DRIVER, ERNEST CHARLES

Name that animal a guide to the identification of the common land and fresh-water animals of the United States, with special reference to the area east of the Rockies. With drawings by Olive Driver. Second edition Northampton, Mass. The author 1950. 558 p. illus. 23 cm. \$6.50 680

Contents: Introduction. Protozoa. Mollusks and jelly-like animals. Fishes and protozoa. Worm-like and insect-like animals. Mollusks. Arthropods. Fishes. Salamanders. Frogs and toads. Lizards. Snakes. Turtles. Birds. Mammals. Rept. Turtles.

Note: (1940) This work is illustrated and illustrated guide for the identification of land and fresh-water animals of eastern North

America. It is designed to serve the needs of those who are not specialists in zoology and yet wish an introduction to the principal genera and species of the various orders of animals. The second edition is revised and enlarged from the first edition. Additions have been made to the keys and to the lists of references, as well as to the text.

FARRIS, EDMOND JOHN, editor

The care and breeding of laboratory animals. New York John Wiley & Sons, Inc., 1950 515 p. illus. 23 cm. \$8.50 681

Contents: The monkey by G. von Wiggmann. The rat as an experimental animal, by E. J. Farris. The care of experimental mice by L. C. Strong. The guinea pig, by H. L. Hest. Breeding and care of the Syrian hamster, by E. M. Polley. The rabbit, by F. B. Smith. The dog, by L. F. Whitney. The domestic cat, by A. B. Dawson. Ferrets, by T. H. Monesties. The opossum, by E. J. Farris. The domestic fowl, by F. B. Hest. Reptiles, by C. M. Pope. Amphibians, by R. C. Hest. Fishes as laboratory animals, by M. O'Brien. Dracophiles, by W. F. Spencer. The control of laboratory pests and parasites of laboratory animals, by W. E. Dove. Index.

Note: In this valuable book each author discusses an animal with which he has worked; consequently the text abounds in details that would not be found in books written solely from the literature. In most chapters the following points are covered: origin, equipment, record keeping, handling, reproduction, diet, disease, sleeping regulations and procedures. References to the literature accompany each chapter. The book was written primarily for professionally trained personnel connected with university and other experimental laboratories. Although the commercial raising of laboratory animals for sale is not covered, it does contain valuable information for persons engaged in this business.

HIGMAN HARRY WENTWORTH AND EARL J. LARRISON

Union Bay the life of a city marsh. Illustrated by Edmund J. Sawyer Seattle University of Washington Press, 1951 315 p. illus. 21 cm. \$4.00 682

Contents: The marsh in Union Bay. How the tide waves acquired summer quarters. The marsh is built. The bad shepherd A vernal's work. The bill of fare. Shells on Union Bay. The white pigment. The track near the marsh. Introducing something new. Acornland, square's head, and other things. The hawkpated albatross that goes to sea. Among the grasses registered. A firm seat. How new water tracks came to the marsh. Tenders, seeds, and beds. How the grass has wandered. Marsh symphony. Quilts. Fashions and dwellings. Sky swimmers. Wild feet and nose. Who killed Cock Robin? Fog is pondweed. The specialist's time control.

Note: A book of essays about the wildlife in marsh located in wet population located in the city of Seattle, Washington. The marsh theme is the interaction between the wildlife and the sedentary settlement of man, but this idea is not overemphasized. The book is essentially a collection of sensitive writing about marsh life as observed by these two authors, and it is addressed to lay readers rather than to specialists.

LEY WILLY

Dragons in amber further adventures of a romantic naturalist. New York The Viking Press 1951 328 p. illus. 21 cm. \$3.75 683

Contents: Part one, Records in stone: The story of the Holocene. The secret of the blue earth. Footprints in red mountains. The dragon from the Lias species. The mammal from the permian. Part two, The last of their kind: The story of the sun. Strangest of the pander. A bird known as takah. Orin seal. The forest of the Quaternary—sequence. The forest of the Quaternary—cycle. Part three, Wanderers across the planet: The story of the fish. The dragon.

ecology but also for the information of those in related fields, including agricultural entomology and medical parasitology.

BROWN FRANK ARTHUR, JR. editor

Selected invertebrate types. New York
John Wiley & Sons, Inc. 1950. 597 p. illus.
24 cm \$6.00. 690

Contents (selected): Phyla: Protozoa, Mollusca, Polychaeta, Crustacea, Platyhelminthes, Rhyngochocela, Acanthocephala, Aschelminthes, Entoprocta, Ectoprocta, Phoronida, Annelida, Echinodermata, Insecta, Mollusca, Brachyopoda, Cyclophorida, Asterozoa, Lingulata, Turbellaria, Choriopoda, Echinodermata, Karyozoa, Chordata, Echinodermata.

Note: The authors of this work are W. Balducci, F. A. Brown, Jr., J. E. Pratt, W. D. Burdick, C. G. Goodrich, L. H. Hyman, M. L. Kober, L. H. Kober, J. H. Lockwood, M. E. Pierce, W. M. Reid, M. D. Ropik, and T. H. Waterman, all members and former members of the staff of the Department of Invertebrate Zoology, the Marine Biological Laboratory, Woods Hole, Massachusetts. In the book more than one hundred species of animals commonly used in laboratory instruction and experimentation are described in detail with particular attention to such points as external structure, general organization, feeding and digestion, nervous system and sense organs, circulatory system, and reproductive system. The book is suitable for use as a laboratory manual in undergraduate courses and also as guide for instruction and research workers to species particularly adapted to laboratory use.

GRITSCH, WILLIS JOHN

American spiders. New York. D Van Nostrand Company Inc. 1949. 285 p. illus. (part col'd) 22 cm. (The new illustrated naturalist, Editorial advisory board William Beebe and others) \$7.50 691

Contents: Introduction. The place of spiders in nature. The life of the spider. Silk spinning and web-making. Courtship and mating. The evolution of spiders. The taxonomy. The chelicerate spiders. The arachnid web spiders. The hunting spiders. Economic and medical importance. The North American spider fauna. Glossary. Bibliography. Index.

Note: A general, readable account of the spiders of the United States and Canada written for the general reader. The selected bibliography of 16 keys is a guide to further reading on the same subject. The book contains 44 plates reproduced from photographs, half of them in color.

HARTMAN, OLGA

Goniadidae, Glyceridae and Nephthyidae. Los Angeles, California. The University of Southern California Press 1950. 181 p. illus. 23 cm. (Allan Hancock Pacific expeditions. Vol. 15 no 1) \$3.50 692

Note: A systematic report based mainly on collections in the Allan Hancock Foundation at the University of Southern California but also on collections in other museums. It contains descriptions of several newly recorded species and sub-species. The species descriptions include literature references, record of the site of collection, morphological description, and records of distribution. There are 19 plates of original drawings.

HOLTHUIS LIPKE B

A general revision of the *Palaeomonidae* (Crustacea, Decapoda, Natantia) of the Americas. I, The subfamilies *Euryrhynchinae* and *Pontoninae* II, The subfamily *Palaeomoninae*. Los Angeles, Calif. The University of Southern California Press 1951-52. 2 v. illus. 24 cm. (Allan Hancock Foundation publications. Occasional paper Nos. 11-12) \$6.00 each. 693

Note: This monograph of the *Palaeomonidae* from the Americas contains complete list of all known species; there are keys to

all genera and species, and there are full synonymies with distributional records for each species. In most cases, descriptions and figures accompany each species. The author has divided the family *Palaeomonidae* into four subfamilies, based on degree of fusion of the rostrum of the upper maxillipedal lipophore, and on modified sexual characteristics. Three of the subfamilies are represented in America. There are numerous notes on habits in life, stages of development, size relations, including seasonal changes, stages of reproductive development, and many comments on collection with newly related species. The two volumes contain 63 and 55 plates, respectively.

HYMAN, LIBBIE HENRIETTA

The invertebrates. Volume II Platyhelminthes and Rhynchocoela. The acelomate Bilateria. Volume III Acanthocephala, Aschelminthes, and Entoprocta. The pseudocoelomate Bilateria. New York McGraw-Hill Book Company Inc. 1951. 2 v. illus. 24 cm. (McGraw-Hill publications in the zoological sciences E. J. Boell consulting editor) \$9.00 694

Contents: Vol. II: Introduction of the Bilateria. The acelomate Bilateria—phylum Platyhelminthes. The acelomate Bilateria—phylum Rhynchocoela. Vol. III: The pseudocoelomate Bilateria—phylum Acanthocephala. The pseudocoelomate Bilateria—phylum Aschelminthes. The pseudocoelomate Bilateria—phylum Entoprocta. Index.

Note: (1957) Two additional volumes of comprehensive monographs continue on the morphology, embryology, physiology, etc., of the invertebrates. Essentially the work is critical digest of the literature, but original material based on the author's investigations is also included. Comprehensive literature references are provided for each section. The large number of original drawings is a notable feature. A third and concluding volume is scheduled for early publication.

KEESLING ROBERT VERNON

The morphology of ostracod molt stages. Urbana. The University of Illinois Press, 1951. 324 p. illus. 26 cm. (Illinois biological monographs Harley Jones Van Cleave and others, editorial committee. Vol. XXI, no. 1-3) Paper \$3.50 695

Contents: Summary. General description. Detailed description. Biology. Immature stages. Variations in size of hysters. Variations in shape of mussels. Relations of appendages and lateral organs to the shape of the valves in hysters. Hyster-length ratio as a valid character for determination of species. Bibliography. Plates. Index.

Note: A detailed study of *Cypridopsis* valves carried out in order to "give" full description of typical living ostracod, more particularly biological information and comparison of the valves of the various hysters. Chapters 1 and 2 contain general and anatomical description, chapter 4 describes the egg, embryology, development, molting, movement, rate of reproduction, life span, etc. The remaining chapters are chiefly descriptions of the molt stages or hysters. There are 24 figures in the text and in addition 46 plates containing reproductions of 419 photographs of stained sections.

LWOFF ANDRÉ, editor

Biochemistry and physiology of protozoa. Volume I. New York Academic Press, Inc. 1951. 434 p. 24 cm. \$8.80 696

Contents: Introduction to biochemistry of protozoa, by A. Lwoff. The physiology of protozoa, by R. H. Hager and L. Parnell. The nutrition of parasitic flagellates (*Trypanosoma*, *Trichomonas*) by M. Lwoff. Metabolism of *Trypanosoma* and *Leishmania*, by T. von Brand. Nutrition of parasitic amoebae, by M. Lwoff. Biochemistry of plasmodium and the influence of antimalarials, by R. W. McKee. The biochemistry of ciliates in pure culture, by G. W. Kohler and V. C. Dorey. Author Index. Subject Index.

Note: The biochemistry of protozoa is of considerable scientific interest. This work is an attempt to bring together, in the form of two-volume collection of original papers, the current knowledge of the subject, even though in some cases the information is still meager. The papers, written by recognized authorities, are selected

INVERTEBRATES INSECTS

BARBER, HERBERT SPENCER

North American fireflies of the genus *Photuris*. With preface and notes by Frank A. McDermott, Washington D C. The Smithsonian Institution 1951 58 p. illus. 24 cm. (Smithsonian miscellaneous collections. Vol. 117 number 1 Publication 4051) Paper \$0.50 703

Contents: Introduction. Observations on which behavior. Nomenclature. Species of *Photuris*. Species here designated. *Photuris* male. *Photuris* female. Table of species of *Photuris*. Addendum (by F. A. McDermott). Notes on some general characters of North American *Photuris*. Results of the examination of Barber's specimens. Literature cited.

Note: A study of *Photuris* fireflies with special attention to the taxonomy of the genus. It was based upon field studies, many of them made in and around Washington, D. C. Described are 19 species and varieties, of which 11 are new. Flashing conduct is considered as a means of species differentiation. A diagram is included to illustrate the flash intervals of the males of the different species of *Photuris*. Prepared for publication after the death of the author by friend and collaborator the work was published on the Thomas Lincoln Casey Fund.

BATES, MARSTON

The natural history of mosquitoes. New York The Macmillan Company 1949 379 p. illus. 21 cm. \$5.00. 704

Contents: Introduction. The environment of the adult. Survival and dispersal. The sexual behavior of mosquitoes. Food habits of the adult. Egg development and oviposition. Mosquito eggs. The larval environment. The physiology and behavior of larvae. The biological environment of the larva. The classification of larval habitats. The pupal stage. Mosquitoes in relation to other organisms. Mosquitoes as vectors of viruses. Mosquitoes as vectors of plasmodia. The species problem. The classification of mosquitoes. The distribution of mosquitoes. Techniques in mosquito study. The strategy of mosquito research. Appendix: Systematic list of mosquito species. Bibliography. Index.

Note: A comprehensive scientific account of mosquitoes viewed as insect animals. All phases of this insect and its ecology are discussed except identification and control. The author is associated with the International Health Division of the Rockefeller Foundation. The book is of interest to biologists and also to public health workers. The bibliography is more or less limited to literature published since 1879; nevertheless it runs to 44 pages.

BERNER, LEWIS

The mayflies of Florida. Gainesville University of Florida Press 1950 267 p. illus. 26 cm. (University of Florida studies. Biological science series. Vol. iv, no. 4) \$5.50. 705

Contents: Introduction. Historical review. The order Ephemeroptera. Primitive and specialized characters. Families of mayflies. West variation of mayflies. Taxonomic characters. A comparison of Florida mayflies with the northern fauna. Zoogeography. Climate divisions of Florida. Habitats of Florida mayflies. Key to Florida mayflies. Species of Florida mayflies. Associated list of mayflies. References. Index.

Note: A comprehensive study of the Ephemeroptera occurring in Florida. It was based on extensive field studies during the course of which 80,000 specimens were collected and examined and many new species were discovered. The greater part of the volume is taken up with systematic descriptions arranged by genus and species. However the descriptions are exceptionally full and often include accounts of personal observations as well as conventional information on taxonomy, distribution, ecology, habits, life history, etc. There are 24 plates based on original drawings.

BLACKWELDER RICHARD ELIOT

The generic names of the beetle family Staphylinidae, with an essay on genotypy Washington, D C. Government Printing Of

fice, 1952 483 p 23 cm. (Smithsonian Institution. United States National Museum. Bulletin 200) Paper \$1.50 706

Contents: Introduction. The names of genera—Classification of names—Names not accepted into our formal nomenclature. Names accepted into nomenclature. Names found not accorded separate status. The principle of genotypy Genotypy determination—Methods of fixation of genotypes—Fixation under the priority power. Automatic fixation. Original designation. Subsequent designation. Method and arrangement: List of generic names. Appendix of doubtful genera. Synonymy. List of changes. List of new names proposed herein. Bibliography. A recent paper by Bernieris. Special comment on Bernieris's recent paper. General names of Staphylinidae. Appendix of names of doubtful status. Systematic key to changes in application of names. List of new names proposed herein. Bibliography.

Note: An alphabetical listing of the generic names of large, homogeneous, widespread, and complex family of beetles. The list is preceded by an essay on the problems surrounding the use of generic names. Matters covered in the essay include synonymy, homonymy, pseudonymy, errors in spelling, misapplication, nomenclological validation, date, author, and priority. The list itself, which presents the facts of the establishment and subsequent use of all the names applied to genera and subgenera of Staphylinidae, extends over 378 pages. The work concludes with 48-page bibliography.

CLARK AUSTIN HOBART AND LEILA F CLARK

The butterflies of Virginia (with 31 plates) Washington D C. The Smithsonian Institution 1951 239 p. illus. (part col'd) 24 cm. (Smithsonian Institution. Smithsonian miscellaneous collections. Vol. 116 no 7) Paper \$2.25 707

Contents: Introduction. Distribution of butterflies in Virginia. Keys to the butterflies of Virginia. Associated list of butterflies of Virginia: Family Lycaenidae, Family Pieridae, Family Nymphalidae, Family Papilionidae, Family Danaidae, Family Lycaenidae, Family Pieridae, Family Papilionidae, Family Hesperidae, Eucraea records. Bibliography. Plates. Index.

Note: A monograph describing in systematic fashion the distribution of 154 known butterfly species of Virginia. The work is based upon a intensive study by the authors over nearly two decades, during which period they devoted nearly all their spare time to the study utilizing weekends and their several vacations in visiting all the 100 counties in the state. Records were made personally in more than 800 localities, and these records were supplemented by information supplied by other collectors. Each species listed in the annotated list is illustrated among the plates. The notes for most of the species cover range, variation, economics, and seasons.

DEMAREC MILINAV editor

Biology of Drosophila. New York John Wiley & Sons, Inc., 1950 632 p. illus. 22 cm. \$12.00. 708

Contents: Natural spermatozoa in Drosophila, by E. W. Casper. The early embryology of Drosophila melanogaster, by H. P. Sussangkarn. Histogenesis, organogenesis, and differentiation in the embryo of Drosophila melanogaster, by D. F. Peckham. The postembryonic development of Drosophila, by D. Belderson. External morphology of the adult, by G. F. Farkis. The internal anatomy and histology of the brain of Drosophila melanogaster, by A. Miller. Collection and laboratory culture, by W. F. Spencer. Index of names. Subject index.

Note: The purpose of this volume is to provide biologists with detailed and comprehensive description of the normal anatomy, histology and development of an insect widely used in biological research. Photographs, diagrams, and anatomical drawings are used extensively to illustrate the various stages in organic development, and each chapter contains two- to three-page bibliography. The book represents the cooperative effort and original research of seven specialists in this field of biological investigation.

ESSIG EDWARD OLIVER AND FRIEDA ARK-NATHY

The aphid genus Periphyllus a systematic, biological & ecological study Berkeley and

but also as a medium of identification of the species. Every species of importance is illustrated, color being used where important for identification. Information included in the descriptions includes descriptions of chief characteristics, notes on habits and habitats, condensed descriptions of the mature larva, number of sexual broods, method of hibernation, average date of appearance of spring adults, geographic range within the area, and type locality maps, and brief characteristics of each valid subspecies found within the area. Roger T. Peterson states of the volume: "The special sections on life notes and their indicator plants, on ecology on the larva and on types of metamorphosis, and the descriptions of subspecies and geographic variation will be enlightening to the serious student of entomology as well as to the insect collector for they will throw light on their peculiarities, and more. This guide is a key book in the Field guide series, for many of the general discussions will not be repeated elsewhere in the series."

MAYNARD ELLIOTT ALLEN

A monograph of the Collembola or spring tail insects of New York State. Ithaca, N. Y. Comstock Publishing Company Inc., associated with Cornell University Press 1951 339 p. illus. (part colPd) 24 cm. \$7.50. 715

Contents: Part I, Introduction. New York State collection records. Phylogeny of the Collembola. Morphology of the Collembola: external structure. Morphology of the Collembola: internal structure. Life cycle. Habitat. Abundance. Food. Geographical distribution. Economic importance. Collection and preservation of Collembola. Reasons for taxonomic investigation of Collembola. Nomenclature and synonymy. Literature pertaining to the Collembola. Types of new species. Part II, Systematic account. Order Collembola. Key to the suborders of Collembola. Suborder Anticopidae. Key to the superfamily of Anticopidae. Superfamily Pseudosminidae. Key to the families of Pseudosminidae. Family Pseudosminidae. Key to the subfamilies of Pseudosminidae. Family Oxyuridae. Key to the New York genera of Oxyuridae. Superfamily Loricariidae. Family Loricariidae. Family Loricariidae. Key to the New York subfamilies of Loricariidae. Subfamily Sminthurinae. Family Sminthurinae. Key to the subfamilies of Sminthurinae. Glossary. Bibliography of the Collembola of the world. Index.

Notes: A general and systematic account of the 200 species and varieties of Collembola found in New York State. In the systematic part, are detailed descriptions of the various suborders, superfamilies, families, subfamilies, tribes, genera, subgenera, and species, with drawings key to the New York species. The typical descriptions of the species include bibliographical references, length, color band, thorax, abdomen, coloring, description, and distribution. Distribution is indicated by letters on New York State where found and the dates of collection are also indicated for other states of the U. S. and for foreign countries where recorded or known. Five of the plates reproduce water-color drawings of epigynae in full color. The author indicates his belief that this group of primitive wingless insects is susceptible for some of the taxonomic value of crops in the United States. The book is necessary tool for all persons interested in the study of Collembola.

MICHENER, CHARLES DUNCAN AND MARY H. MICHENER

American social insects: a book about bees, ants, wasps and termites. New York: D. Van Nostrand Company Inc., 1951 267 p. illus. (part col d) 22 cm. (The new illustrated naturalist, Editorial advisory board William Beebe and others) \$6.00. 716

Contents: (abridged) Part one, The nature of social insects: What is social insects? Functions and behavior. Learning and behavior. What determines caste? Three insects become social. Subsocial insects. Part two, The termites and other wasps. Part three, The bees. Part four, The ants. Part five, The wasps. Part six, Sociality and their parasites. Unsocialized insects. Societies of insects and man. Appendixes: Social structure and development. Bibliography. Glossary. Index.

Notes: A popular account of the social insects and their behavior, written by entomologists as an introduction for the reader without previous knowledge of the subject. While all the major species of bees, ants, wasps, and termites found in the United States are named and described, and some of the foreign representatives are also mentioned, the book is primarily a readable description of the lives of these insects that provides for the identification of species. Especially noteworthy are the illustrations from photographs, 39 of them in color and over 75 in black and white.

PETERSON, ALVAH

Larvae of insects. An introduction to nearctic species. Part II: Coleoptera, Diptera, Neuroptera, Siphonaptera, Mecoptera, Trichoptera. Columbus O. The author 1951 416 p. illus. 28 cm. \$7.00. 717

Contents: Introduction. Methods. Larvae of Coleoptera, discussion. Key to families of Coleoptera. Family names of Coleoptera. Descriptions of larvae of common families of Coleoptera. List of some common, important or unusual species of Coleoptera. Larvae of Coleoptera with explanations. Selected bibliography for larvae of Coleoptera. Larvae of Diptera, discussion. Key to families of Diptera. Family names of Diptera. Descriptions of larvae of common families of Diptera. List of some common, important and unusual species of Diptera. Larvae of Diptera with explanations. Selected bibliography for larvae of Diptera. Larvae of Neuroptera, discussion. Key to families of Neuroptera. Larvae of Neuroptera with explanations. Larvae of Siphonaptera, discussion. Larvae of Mecoptera with explanations. Larvae of Trichoptera, discussion. Key to families of Trichoptera. Larvae of Trichoptera with explanations. Selected bibliography of larvae of Mecoptera, Neuroptera, Siphonaptera and Trichoptera. Glossary for Part II. Feed, host or habitat index for Coleoptera. Feed, host or habitat index for Diptera. General index for Part II.

Notes: (MP) This volume is the second of a two-part work dealing with insect larvae. It contains drawings, keys, and text descriptive of the larval stages of the Coleoptera and Diptera presented to the same complete families as the Lepidoptera and Hymenoptera are treated in Part I; and in brief tables presents the larvae of the Neuroptera, Siphonaptera, Mecoptera, and Trichoptera. Special attention is given to larvae of economic importance. Detailed illustrations in enlargement cover 104 pages, with explanations on facing pages. The total number of pages devoted to the Coleoptera is 318, to Diptera, 151, to the other four orders, 24.

RICHARDS ALBERT GLENN

The integument of arthropods: the chemical components and their properties the anatomy and development, and the permeability. Minneapolis Minn. University of Minnesota Press 1951 411 p. illus. 24 cm. \$6.00. 718

Contents: Introduction. Section I, The chemical components, their combinations, their properties. Glucosamine, N-acetylglucosamine, chitin, and chitin. Chitin derivatives and metabolic sources. The structure and synthesis of chitin. The distribution of chitin to the animal and plant kingdoms. The decomposition of chitin and its use in nature. Proteins. Polypeptides and enzymes. Mixed polymers. Carbohydrates. Lipids. Inorganic constituents and nucleic acids. The percentages of cuticular components. Universal chemical components. The physical properties of cuticle and cuticular components. Section II, The anatomy and development of the integument. The general structure. Chemical and toxicological studies. The epidermis, or peritrophic cuticle. The procuticle, or chitinous cuticle. The structure of the procuticle. Physical factors. The epidermis. The anatomy, blood cells, and internal structure. Moulting. Moulting attachment, tension, and apophyses. Waxes, oils, epicuticular glands, etc. The tracheal system. Sclerotization, annulation, and microtubular structures. Section III, The permeability of the cuticle. General remarks on the permeability of the cuticle. The permeability of water and gases. The permeability of electrolytes, osmolarity, and osmoticity. The permeability of the cuticle. Bibliography. Index of authors. Subject index.

Notes: A comprehensive, well organized, and completely documented account of the integument, which will be of chief interest to entomologists, zoologists, and chemists. It is a synthesis of the literature of the subject for the use of other scientific workers. The author, an entomologist, gives the other classes of arthropods less attention than the insects, but points out that more work has been done with the integument of insects than with that of other arthropods. The bibliography runs to 77 pages.

SNYDER, THOMAS ELLIOTT

Catalog of the termites (Isoptera) of the world. Washington D. C. The Smithsonian Institution, 1949 490 p. 23 cm. (Smithsonian miscellaneous collections. Vol. 112 (whole volume) Publication 3953) Paper \$3.00. 719

Contents. Introduction. List of the families, subfamilies, genera, and subgenera. Catalog of the termites (Isoptera) of the world. Living termites: Family Mastotermitidae. Family Kalotermitidae. Family Hodotermitidae. Family Rhinotermitidae. Family Termitidae. Not identified as to species. Not classified. Not termites, or of doubtful position. Fossil termites: Family Uboltermitidae. Family Mastotermitidae. Family Kalotermitidae. Family Rhinotermitidae. Family Termitidae. Of uncertain or doubtful position. Fossils not termites. Descriptions of new genera. Index to species. Bibliography as the taxonomy of the termites of the world. On living termites. On fossil termites.

Note: A complete catalogue, systematically arranged, of all known species of termites, divided into 123 living genera, 18 fossil genera no longer living, and 17 fossil genera still living. Excepting for new genera, descriptions are not given of the species, genera, and families, but references indicate where in the literature of the subject such descriptions appear. For each species are given the geographical area where found and, where possible, the present location of type specimens.

TRAUB, ROBERT

Siphonaptera from Central America and Mexico, a morphological study of the Aedeagus with descriptions of new genera and species. Chicago Chicago Natural History Museum, 1950 231 p. 21 cm. (Fieldiana Zoology memoirs, Vol. 1) Paper \$4.00 720

Contents (abridged). Part I, Descriptions of new genera and species. Part II, The comparative morphology of the Aedeagus of Siphonaptera from Mexico and Central America. Part III, References. Host Index. Index. List of abbreviations.

Note: Although twenty-five new species and sub-species and 2 new genera are described in this work, the author has not attempted comprehensive descriptions of the faunas of Central America and Mexico. His point of view is that such a monograph could not be prepared because of the many increases in the knowledge of the faunas of the region. His main interest was in the possible taxonomic value of the Aedeagus. Part two is therefore the more important section of the book. There are 54 plates, each of which contains several drawings pertaining to comparative morphology of the faunas of these geographical areas.

URQUHART, FREDERICK ALBERT

Introducing the insect. With drawings by E. B. S. Logier New York Henry Holt and Company 1949 287 p. illus. (part cold) 24 cm. \$5.00 721

Contents. On making an insect collection. Anatomy and life history. Classification and identification. Arthropods and arachnids. Crustaceans, crickets and scorpions. Ctenodactyls, praying mantids and stick insects. Hemiptera and myriapods. Termites. Bees, bees, bees and sucking lice. Ticks and bugs. Dragonflies and damselflies. Net-winged beetles. Scorpionflies and caddisflies. Butterflies and moths. Beetles. Ants, bees and wasps. Flies and flies. Oods. In conclusion. General reference books. Index.

Note. An elementary book which is equally well adapted for the layman interested in the study of insects as a hobby and for teachers taking an introductory course in entomology. Following the introductory chapters, the important orders and families are described in popular manner but in systematic order with suitable keys and illustrations. The author is Director and Curator of Entomology at the Royal Ontario Museum of Zoology.

WEST LUTHER SHIRLEY

The housefly Its natural history medical importance, and control. Ithaca, New York Comstock Publishing Company Inc. associated with Cornell University Press 1951 584 p. illus. 24 cm. \$7.50 722

Contents. Flies and more introductory and historical. External morphology. Internal morphology. Physiology. Behavior. Life history of the fly. Taxonomy and nomenclature. Geographical distribution. Food requirements. Temperature and humidity. Miscellaneous ecological factors. Parasites, predators, symbionts, and commensals. Flies and human disease. Public health relations. Myiasis. Are flies harmful? The fly as an experimental animal. Field, museum, and laboratory techniques. Emergency control. Pesticide control. New insecticides and their dangers. Bibliography. Index.

Note. A monograph in which all phases of the subject—morphology, physiology, behavior, life history, taxonomy, distribution, and our relation to flies, mosquitoes, and laboratory control measures, techniques in the field, museum, and laboratory control measures, and bibliography are covered. It is the first comprehensive treatment of the housefly in book form since 1914. It is educational enough to be valuable to such professional workers as entomologists and public health specialists, but the style is not too technical for interested laymen and others not accustomed to scientific terminology. The bibliography extends over 55 pages.

WHARTON, GEORGE WILLARD

A manual of the chiggers, the biology classification, distribution and importance to man of the larvae of the family Trombiculidae (Acarina) Aided by H. S. Fuller Washington Entomological Society 1952 185 p. illus. 26 cm. (Entomological Society of Washington. Memoirs. No. 4) 723

Contents. Introduction. Public health. Behavior. Life cycle. Anatomy. Classification. The distribution of Trombiculidae. Appendix. Literature cited. Index.

Note: Although the chapter on classification is longer (46 pages) than any other this book is otherwise assessed of the whole subject rather than systematic descriptions of the Trombiculidae. The available knowledge on life cycle, physiology, and ecology is summarized. Also the public health aspects are adequately outlined. The bibliography is comprehensive.

VERTEBRATES (EXCEPT BIRDS AND MAMMALS)

CARR ARCHIE

Handbook of turtles the turtles of the United States Canada, and Baja California. Ithaca, N. Y. Comstock Publishing Associates a division of Cornell University Press, 1952 542 p. illus. 24 cm. (Handbooks of American natural history. Albert Hazen Wright, advisory editor) \$7.50. 724

Contents. Part I: Introduction. Turtle functions and capacities. Respiration. Circulation. Excretion. Digestion. Reproduction. Sensation and intelligence. Sex, growth, and age. Turtle adaptation. Turtles and man. Economic uses. Methods of collecting turtles. The hibernating turtle. Taxonomy of turtle structure. Revised classification. Parts of the body shell. Epidermal anatomy. Part II: Accounts of the shell. Shell observations and their meaning. Part III: Accounts of species. Key to the families. Suborder Testudines. Family Cheloniidae, the sea turtles. Family Emydidae, the pond and marsh turtles. Family Testudinidae, the land tortoises. Family Cheloniidae, the sea turtles. Family Testudinidae, the pond-turtles. Suborder Anserinae, the land-turtle marine turtles. Family Dermochelyidae. Bibliography. References for status and provinces. Index.

Note. An illustrated handbook describing 79 species and subspecies of turtles native to North America north of the Rio Grande. The major species are illustrated with photographic plates and distribution maps and are described under the following heads: range, distinguishing features, physical dimensions, habitat, habits, feeding, breeding, and economic importance. The bibliography extends to 66 pages and is followed by an index by states and provinces.

CONANT ROGER

The reptiles of Ohio. Second edition (with revisionary addenda) Notre Dame, Indiana University of Notre Dame Press 1951 284 p. illus. 24 cm. \$3.50. 725

Contents (abridged). Introduction. Collections examined. Systematic list of the reptiles of Ohio. Descriptive records and possible additions. Use of scientific names. Physiology and geography of Ohio. Ohio. Presentation of each species. Key to the reptiles of Ohio. Discussion of species. Glossary. Bibliography. First aid in case of snake bite. Suggestions for collecting. Instructions for preserving reptiles. Revisionary addenda. Supplementary references. Distribution maps. Index.

Notes: (16444) A systematic description of the species of snakes, lizards, turtles, and other reptiles found in the state of Ohio. It is used for reference by both amateur and professional zoologists. The major part of the present edition is unchanged from the first, published in 1911. However, considerable number of new descriptions have been added in the 45-page "Revisory additions. Also list of supplementary references and some new maps have been added.

SHIMADA, BELL M

An annotated bibliography on the biology of Pacific tunas. Washington D C. Government Printing Office, 1951. 58 p. 26 cm. (United States. Fish and Wildlife Service. Fishery bulletin 58. From Fishery bulletin of the Fish and Wildlife service volume 52) Paper \$0.30 726

Contents: Introduction. Annotated bibliography. Abbreviations used. Index by subjects.

Notes: This bibliography covers chiefly the literature on the black abalone or little tunny (*Kalmakrus californicus*, *K. leucurus*, and *K. pinnatus*) the striped or common blackjack (*Kalmakrus pelamides*), the albacore (*Thunnus albacore*), the bluefin or black tuna (*Thunnus maculatus*, *T. thynnus*, and *T. thynnus*), the big-eyed tuna (*Paralichthys oblongus* and *P. latipinna*), the yellowfin tuna (*Thunnus albacares*), and the frigate mackerels of the genus *Alopias* inhabiting the Pacific Ocean, including the waters contiguous to the Indo-Australian Archipelago. The bibliography is arranged alphabetically by author. Date, title, publication data, and brief annotations are indicated for each item. Japanese references are included.

SMITH HOBART MUIR, and EDWARD H. TAYLOR

An annotated checklist and key to the reptiles of Mexico exclusive of the snakes. Washington D C. Government Printing Office, 1950. 253 p. 24 cm. (Smithsonian Institution. United States National Museum. Bulletin 199) Paper \$0.75 727

Contents: Introduction. Literary and scientific localities for the White Rattlebacked Racer specimens, 1914-1941. Class Reptalia: Subclass Anapsalia: Order Testudinata: Subclass Lepidosauria: Order Squamata: Subclass Archosauria: Order Lacertalia: Species Index.

Notes: (627-606) This volume constitutes the last of a series of checklists and keys to the herpetological fauna of Mexico. The work involved number of specimens in Mexico, beginning in 1933 and the handling of more than 80,000 herpetological specimens. The various subgroups, orders, suborders, families, genera, and species are listed and keyed to systematic order; for the species names, bibliographical citations, type, type locality and range in Mexico are given.

STEBBINS, ROBERT CYRIL

Amphibians of western North America. Berkeley Calif. University of California Press, 1951 539 p. illus. (part col'd) 24 cm. \$7.50 728

Contents: Introduction. Class Amphibia. Subclass Anura: Order Urodela. Family Salamandridae. Family Ambystomidae. Family Plethodontidae. Frogs and toads. Order Anura: Family Anaxyridae. Family Pseudoeurytomidae. Family Leptodactylidae. Family Bufonidae. Family Hylidae. Family Ranidae. Family Microhylidae. Eggs and larvae. Bibliography. Distribution maps. Glossary. Bibliography Index.

Notes: A treatise covering the amphibians of the western form, collection, habits, and distribution of the species of salamanders, toads, and frogs inhabiting the eleven western states of the United States, Alaska, and the three western provinces of Canada is contained in this work. It is based on comprehensive coverage of the pertinent literature, unpublished data, and the author's personal observations. The species of salamander mentioned 33, and the species of frogs and toads, numbering 79 are described in systematic order. The following information about species is generally given: range, type locality description, habitat, behavior, food, reproduction, and remarks. All species and some subspecies are shown in illustrations. To facilitate comparison the animals of each group are classified

posed in the drawings, the salamanders shown in dorsal and ventral views, the frogs and toads in three-quarter view. Illustrations are also given of eggs, larvae, and typical habitats. A series of 44 sketch maps indicates locations of reported specimens of western species. The book is useful both to zoologists and to amateur naturalists who are interested in the fauna of the region covered.

WRIGHT, ALBERT HAZEN AND ANNA ALLEN WRIGHT

Handbook of frogs and toads of the United States and Canada. Third edition. Ithaca, N Y. Comstock Publishing Company Inc., 1949 640 p. illus. 24 cm. (Handbooks of American natural history. Albert Hazen Wright, advisory editor) \$6.50 729

Contents: General account. Common names. Present classification. Scientific names. Specific evaluation of new North American forms. Range. Habitat. Size. General appearance. Color. Structure. Voice. Local uses. Color of throat. External tympanum (eardrum). Breeding habits. Summary of secondary sexual characters. Oviposition. Eggs. Synopsis of eggs of United States frogs. Tadpoles. Synopsis of United States tadpoles. Development and transformation. Juveniles. Adults. Anterior lateral line. Lys: Families: Anaxyridae, Scaphiophrynidae, Bufonidae, Rhyacophoridae, Leptodactylidae, Ranidae, Microhylidae. Accounts of species. Related forms. Anaxyridae. Scaphiophrynidae, Scaphiophrynidae. Toads, Hylidae. Tree frogs, Hylidae. Rabbit frogs, Leptodactylidae. Frogs, Ranidae. Maroon-mouth toads, Microhylidae. Bibliography Index.

Notes: (1699) From its second to its third edition this standard handbook has been increased in size from 324 pages to 640 pages. While the new edition is organized on the same general plan as its predecessor, both the introductory general account and the specific descriptions have been greatly expanded. Including the text, the general account now occupies 353 pages, with additional text in text and illustrations. One hundred species and subspecies are included and the descriptions run to 400 pages in contrast to 190 pages in the second edition. The number of plates was increased from 30 in the second edition to 120 in the third. In addition, the third edition includes 77 maps of distribution of species which were not present in earlier editions. The work is now complete manual of American frogs and toads. It is written so that it may be used by amateur naturalists and teachers, as well as by professional zoologists. The illustrations are exceptionally good.

VERTEBRATES BIRDS

ALLEN ELZA GUERDUM

The history of American ornithology before Audubon. Philadelphia. The American Philosophical Society 1951 387-591 p. illus. 30 cm. (Transactions, American Philosophical Society New series—vol. 41 part 3) Paper \$2.00 730

Contents: Ancient bird lore. Aristotle's studies of birds and the Middle Ages. Continental bird lore and the early bird lore in England. Early bird lore in the western world. Early colonial bird observations in America. The mid-seventeenth and early eighteenth centuries. Mark Catechet. Founder of American ornithology. American ornithology under European auspices. Bird observations returned in America. Early ornithological observation around Hudson Bay and other lower regions. Bird lore of the latter eighteenth century. Bartram, Audubon, and Vieillot. Alexander Wilson, father of American ornithology. Bibliography Index.

Notes: A scholarly work based largely on study of source materials in American university libraries and museums. It is thoroughly documented. The 14 pages bibliography includes citations of not only the pertinent literature on ornithology but also biographical and historical writings. The 11 illustrations include portraits of scientists and reproductions of ornithological drawings, manuscripts, etc. The author is Research Associate in Ornithology in Cornell University.

BAKER, ROLLIN HAROLD

The avifauna of Micronesia, its origin evolution, and distribution. Lawrence, Kan. University of Kansas, 1951 359 p. illus. 23

or decrease in each species during the past century. The other half discusses the factors causing the fluctuations in bird population. The work is a study of potential interest to amateur and professional ornithologists and ecologists.

HEADSTROM RICHARD

Birds' nests, a field guide. An identification manual to the nests of birds of the United States east of the one hundredth meridian. New York Ives Washburn, Inc., 1949 128 p. illus. 19 cm. \$2.75 737

Contents: Index of birds. Introductions. How to use this book. Nests on or in the ground. In fields or pastures. In woods. In marshes. On or near marshes and lake beaches. In burrows. In the ground. On rocks or rocky ledges. In caves. The ground. Hanging or semi-hanging. Covered on outside with lichens and matted on branch. Felted nests of cavity nesters. Containing eggs of meat. Made chiefly of bark, moss, twigs, and needles. Made chiefly of grass, reeds, leaves, and straw. Containing twigs or sticks. In holes in trees or stumps, in hollows or similar places. In or on buildings.

— Birds nests of the West, a field guide. An identification manual to the nests of birds of the United States west of the one hundredth meridian. New York Ives Washburn, Inc., 1951 177 p. illus. 19 cm. \$3.00. 738

Contents: Nests on or in the ground. In fields, pastures, or prairie. In woods and wooded hillside. In marshes, bays, wet meadows, and swamps. On or near marshes and lake beaches. In burrows in the ground. On rocks or rocky ledges. In caves. In dens. On alpine summits. Nests above the ground. Hanging or semi-hanging. Covered on outside with lichens and matted on branch. Felted nests of cavity nesters. Containing eggs of meat. Made chiefly of bark, moss, twigs, and needles. Made chiefly of grass, reeds, leaves, and straw. Containing twigs or sticks. In holes in trees or stumps, in hollows or similar places. In or on buildings. Index.

Note: The purpose of these manuals is indicated in the introduction. The nest descriptions include statements on the materials of which the nest is usually made and of the range of the bird in the United States. Each volume contains no less than 100 photographs of actual photographs of birds' nests in their natural sites.

PETTINGILL OLEN SEWALL JR.

A guide to bird finding east of the Mississippi. With illustrations by George Miksch Sutton. New York Oxford University Press, 1951 659 p. illus. 19 cm. \$6.00 739

Note: An unusual addition to ornithological literature. It is made to opportunities for observing birds, or more specifically, guide to localities known to be frequented by particular species. The same arrangement is by state with the natural water states arranged by locality. Under each locality there is an interesting narrative description of the birds that can usually be observed. The index contains both the names of places and the names of birds. The work was based largely on an extensive correspondence with amateur and professional ornithologists throughout the United States.

POUGH RICHARD HOOVER

Audubon water bird guide water game and large land birds. Eastern and central North America from southern Texas to central Greenland. Color illustrations by Don Eckelberry line drawings by Earl L. Poole. Sponsored by National Audubon Society Garden City N Y Doubleday & Company Inc., 1951 352 p. 19 cm. \$3.50 740

Note: A field guide of interest to both amateur and professional ornithologists. The number of species described is 588. The descriptions cover such points as identifying characteristics, habits, song or cry, nest, and range. There are 458 excellent color illustrations printed on 44 plates and more than 100 drawings rendered in black

and ink. The author is member of the staff of the American Museum of Natural History.

RICHDALE LANCELOT ERIC

Sexual behavior in penguins. Lawrence Kansas University of Kansas Press 1951 316 p. illus. 24 cm. \$5.00. 741

Contents: Scope of the study. An analysis of types of behavior. Pub. formation. Sex differences, measurement, and weights. Sexual behavior in water. The pre-egg stage. Unemployed birds. Incubation. Chick stage. The male. Appendix. Literature cited. Index of subjects. Index of species. Index of birds.

Note: An unusual work based primarily upon "ten seasons of intensive field work." The birds studied were located by the author so as to make possible continuous study of the behavior of individuals over the period of study. The observations made are presented in detail with individual birds identified. Although the primary source is the author's own observation, pertinent information in the published literature also is presented. The book is of interest to amateur and professional ornithologists and to specialists in animal psychology.

ROMANOFF ALEXIS LAWRENCE AND AN ASTORIA J ROMANOFF

The avian egg. New York John Wiley & Sons Inc., 1949 918 p. illus. 24 cm. \$16.00. 742

Contents: Part I. Morphogenetic processes: Mode of laying, External characteristics. Structures. Fertilization. Amegiosis. Part II. Biochemical characteristics: Chemical composition. Physicochemical properties. Cell of the egg. Part III. Biochemical importance. Food value. Preservation. Industrial uses. Bibliography. Index.

Note: An encyclopedic presentation of the scientific knowledge of the bird egg in general and the chicken egg in particular. It does not deal with the egg as an element in reproduction, but rather with the biological process of egg production, the physical and chemical properties of eggs, and the food and industrial uses of eggs. Although essentially a reference book, the work is easy to read and contains much information of interest to the non-scientist reader as well as to the scientist. The authors claim to have reviewed more than 15,000 publications in the course of the book's preparation. These facts which information was abstracted are cited in the text and in the bibliography. There are references are given to approximately 2,500 books, patents, and articles. There are 434 figures.

SAUNDERS ARETAS ANDREWS

A guide to bird songs descriptions and diagrams of the songs and singing habits of land birds and selected species of shore birds. Revised edition Garden City New York Doubleday and Company Inc. 1951 307 p. illus. 19 cm. \$3.00 743

Contents: How to identify bird songs. Key to bird songs. Descriptions of bird songs. New material. Index.

Note: A field manual designed to aid in the identification of birds by means of their songs. The songs are diagrammed, not in conventional musical notation, but in a form the author designates as musical shorthand. They are also rendered as combinations of consonants and vowels, for example: "coo-coo coo-coo" for the quacking call of the bob white. The first edition was published in 1912. In this edition descriptions are given of many songs that were not represented in the first edition. The added material runs to about 80 pages.

SUTTON GEORGE MIKSCHE

Mexican birds. First impressions based upon an ornithological expedition to Tamaulipas, Nuevo León, and Coahuila. With an appendix briefly describing all Mexican birds. Illustrated with water-color and pen-and-ink drawings by the author Norman, Okla. University of Oklahoma Press 1951 282 p. illus. (part col'd) 25 cm. \$10.00. 744

Note: The main part of this book consists of 22 entomological chapters of impressions of Mexican birds written by an ornithologist on his first trip to Mexico. The chapters are presented in a connected story with dates and places named and species identified. The concluding third of the book describes 23 families of birds found in Mexico, with notes on each of the principal species. The illustrations include water-color drawings of 16 species in color and pen-and-ink drawings of 60 more species. The volume is not intended as a handbook of Mexican birds; it rather serves as an informal introduction to the subject for bird students visiting Mexico for the first time.

WALKINSHAW, LAWRENCE H.

The sandhill cranes. Bloomfield Hills, Mich. Cranbrook Institute of Science 1949 202 p. Illus. 24 cm. (Cranbrook Institute of Science. Bulletin no 29) \$3.50 745

Contents: Introduction. Molt and plumage. Voice. Crane behavior. Food and feeding habits. Pairing and territory. Nesting. The young. The crane from fall to spring. History of North America, crane populations. Literature cited. Appendix: Key to the cranes of the world. Sandhill crane distribution records (with bibliography). Index.

Note: In this book an amateur ornithologist of exceptional devotion has recorded the results of observations covering 50 years and 70,000 miles of travel in North America and Cuba. The life cycle and habits of the sandhill crane (*Grus canadensis*) were minutely observed. The author's own observations were then supplemented by reports in the published literature to produce an exceptionally detailed study of a species that is gradually disappearing. There are 33 photographs—most of which show birds in their natural habitat, 31 tables of data, and an extensive bibliography.

WETMORE, ALEXANDER

A revised classification for the birds of the world. Washington, D. C. The Smithsonian Institution, 1951 22 p. 24 cm. (Smithsonian miscellaneous collections. Vol. 117 number 4 Publication 4057) Paper \$0.15 746

Note: (1948) A work which is presently of interest to professional ornithologists. The first half of this new revision is devoted to discussion of the newer knowledge which has made advisable certain changes in and additions to the various groupings of families, superfamilies, suborders, and orders of the class Aves. The second half presents the new classification in systematic arrangement, including English names alongside the scientific names. The list includes fossil groups as well as living groups of birds. The new edition reflects particularly the results of increased knowledge of the birds of Australia and New Zealand on the one hand and of fossil forms on the other.

ZAHLE, PAUL ARTHUR

Flamingo hunt. Illustrated by Frits Kredel. Indianapolis Ind. The Bobbs-Merrill Company Inc., 1952 270 p. Illus. 21 cm. \$3.50 747

Contents: First adventure. Second adventure. Third adventure. **Note:** The account of an ornithologist's adventures in attempting to solve the mysteries of the flamingo colonies of Andros Island of the Bahamas, about which almost no published information has been available. A first-hand narrative of interest not only to scientists but to laymen as well.

VERTEBRATES MAMMALS (EXCEPT MAN)

BAILEY PERCIVAL AND OTHERS

The isocortex of the chimpanzee. By Percival Bailey Gerhardt von Bonin and Warren S McCulloch. Urbans The University of Illinois Press, 1950 440 p. Illus. (part col'd) 28 cm. \$8.50 748

Contents: Introduction. Materials and methods. General considerations. Flamingo pattern. Cytoarchitecture. Survey by serial section.

The limbic map. Physiological neuroanatomy. Motor responses to electrical stimulation. Somesthesia. Relations with deeper structures. Interrelations of cortical areas. Correlation with *Macaca mulatta* Epilepsy. Bibliography. Index.

Note: A monographic report of techniques and results of an extensive series of experiments carried on in the Laboratory of Neurophysiology at Yale University and continued in the laboratory of the Illinois Neurophysiology Institute at the University of Illinois. Mapping of the limbic functional system in the isocortex of the chimpanzee was the chief object of the experiments. Although the experiments were not carried to their conclusion, the results reported are of substantial interest to other researchers in neuroanatomy.

FARRIS, EDMOND JOHN, AND JOHN Q GRIF WITH JR. editors

The rat in laboratory investigation, by a staff of twenty nine contributors. 179 illustrations. Second edition Philadelphia J B Lippincott Company, 1949 542 p. Illus. (part col'd) 23 cm. \$15.00 749

Contents: Breeding of the rat, by Edmund J. Farris. General methods, by John Q. Griffith, Jr. assisted by W. A. Jellison. Gross anatomy, by E. C. Greene. Experimental methods and rat anatomy, by J. S. Michelson. Dietary requirements of the rat, by R. B. McCoy. The teeth, by I. Schöner and M. Mautner. The digestive system, by T. E. Macpherson and J. Q. Griffith, Jr. Metabolism, by C. J. Cory and J. Q. Griffith, Jr. The central nervous system, by W. A. Jellison and J. Q. Griffith, Jr. assisted by E. Roberts. Techniques for the investigation of behavioral phenomena in the rat, by G. L. Krasner. The circulatory system, by J. Q. Griffith, Jr. and W. A. Jellison, assisted by E. Roberts. The use of the rat in the biologic assay of hormones, by D. J. Inglis. Dosage of drugs for rats, by H. G. O. Balch, assisted by D. E. Macpherson. Hematology of the rat—methods and standards, by A. J. Crawford and others. Radiologic considerations, by R. P. Fenderson and others. Surgery of the rat, by D. J. Inglis and others. Histologic methods adapted for rat tissues, by W. H. F. Adams. The immune system, by H. M. Strong. The eye of the albino rat, by W. R. Fry. Prostate gland of the rat, by D. E. Macpherson. Male sexual function of the rat, by H. L. Ratcliffe. Spontaneous disease of laboratory rats, by H. L. Ratcliffe. Bibliography. Index.

Note: (1950) A comprehensive handbook and guide for those who use the albino rat for laboratory research purposes. Most of the information presented is based upon experience in maintaining rat colonies over periods of twenty at the White Institute of Anatomy and Biology Philadelphia. In preparing the new edition the authors reviewed the entire text in the light of current knowledge and techniques and made the necessary changes and additions. The appearance of many new reports involving the action and dosage of drugs for rats necessitated the complete rewriting of considerable portions (from 14 to 103 pages) of the chapters on pharmacology. New material has also been incorporated in the chapters on the digestive system and the immune system.

GOLDMAN EDWARD ALPHONSO

Raccoons of North and Middle America. With foreword, appendix, and revision of bibliography by Hartley H. T. Jackson Washington D. C. Government Printing Office, 1950 153 p. Illus. 23 cm. (United States. Department of the Interior Fish and Wildlife Service. North American fauna 60) Paper \$0.45 750

Contents: Introduction. History. Habitat. Food and general activities. Burrows and instincts. Breeding. Hibernation. Geographic variation. General characters: Pelage and molt. Variation. Occurrence. Coloration. Individual variation. Reproduction. Measurements. Cytology. Specimens examined. Use of key to species and subspecies. *Canis Procyon* Mamm. Key to subspecies. List of North American species and subspecies, with type localities. *Subgenus Procyon*. *Subgenus Canis*. Key to species and subspecies of the subgenus *Procyon*. *Subgenus Canis*. Appendix. Bibliography. Index.

Note: A systematic description of the species and subspecies of the raccoons of North America, including *Procyon* and the *Canis* subgenus. Following the general and introductory material, the species are taken up one by one and information is furnished on nomenclature, original bibliographical citations, type locality, type, distribution, general characters, color, cranial characters, measurements, and specimens examined. Twenty plates show photographs of skulls of typical specimens. The manuscript was completed for publication in 1941; additions have been made in the appendix to

cover two new subspcies and in the bibliography to include papers published from 1941 to 1948

GREGORY WILLIAM KING, editor

The Henry Cushman Raven memorial volume. The anatomy of the gorilla. The studies of Henry Cushman Raven and contributions by William B. Atkinson, Herbert E. Elftman, John Eric Hill, Adolph H. Schultz, William L. Straus, Jr. and S. L. Washburn. Arranged and edited by William King Gregory. A collaborative work of the American Museum of Natural History and Columbia University. New York: Columbia University Press, 1950. 259 p. illus. 32 cm. \$15.00 751

Contents (abridged). Part I. Henry Cushman Raven (1889-1944) by W. B. Atkinson. Scientific papers of Henry Cushman Raven. Part II. Regional anatomy of the gorilla, by H. E. Elftman, with additions by J. E. Hill. Part III. Thoracic viscera of the gorilla, by S. L. Washburn. The abdominal viscera of the gorilla, by H. Elftman and W. B. Atkinson. Female reproductive system of the gorilla, by W. B. Atkinson and H. Elftman. Part IV. The microscopic anatomy of the skin of the gorilla, by W. L. Straus, Jr. Part V. Morphological observations on gorillas, by A. H. Schultz. Index.

Note: Considerably more than half of the space in this volume is devoted to reproduction of original drawings, made under Henry Cushman Raven's direction, of his own dissections of the gorilla. The drawings are consistently clear and are reproduced in large dimensions. The chapters and parts of the work supplied by other contributors supplement Raven's work, which was left unfinished at his death, and are in themselves notable contributions based largely on original studies. The work is a major contribution that greatly extends the knowledge of the anatomy of the gorilla.

HALL EUGENE RAYMOND

American weasels. Lawrence, Kan. University of Kansas, 1951. 466 p. illus. (part col'd) 23 cm. (University of Kansas publications. Museum of Natural History Vol. 4) 752

Contents: Introduction. Paleontological history. Skeleton and dentition. Densities in number of males and females. Materials, techniques, and methods. Variations. Variations with age. Secondary sexual characters. Individual variations. Seasonal variations. Variations in color and smell. Variations of domesticated weasels. Distribution and speciation. History of classification. Chronological list (annotated) of specific and subspecific names. Check list of American species and subspecies of the genus *Mustela*. Artificial key to American species of the genus *Mustela*. Diagnosis of the genus. Explanation of systematic treatment. Systematic accounts of species and subspecies. *Mustela americana*. *Mustela ermine*. *Mustela putorius*. *Mustela sibirica*. Explanation of cranial measurements. Table of cranial measurements. Literature cited. Plates. Index.

Note: A general and systematic treatise on the weasels of North America, with some coverage of those of South America. The first 80 pages include the general descriptions of the weasels and their variation and distribution. The next 335 pages contain the systematic accounts of the species (including type, range, characters for ready recognition, character of the species, geographic variation, behavior, seasons, food, reproduction) and of the subspecies (type, range, characters for ready recognition, sex, color, skull, sex differences, remarks, specimens examined). The remainder of the book includes the tables of cranial measurements of specimens and the 39 plates each containing photographs views of 9 or 18 skulls. The work is based upon more than 15 years of study of the weasel and weasels to 184 museum collections in the United States, Canada, and Europe.

HARTMAN CARL GOTTFRIED

Possums. Austin Tex. University of Texas Press, 1952. 174 p. illus. 29 cm. \$6.00 753

Contents: Introduction. European meets the opossum. The opossum down under. The sex and the age of credibility. The opossum gets away. What manner of beast is this? The opossum at home. And thereby hangs posterity. Checkers that playing possum. Opossum osteology in pictures. Birth of the opossum. Journey to the pouch. Baby journey to the pouch: fact. Birth of the kangaroo. The blood pouch in secret. The pouch young. Opossum and bear. A

butterfly palster starts. legend. Few centuries of opossum pictures. Possum handling. Possum capers and red parties. Possum and talent. Appendix: Possum rhymes and ballads. Bibliography. Index.

Note: A large volume. Rich text, in text and pictures, the lore and science of the opossum (*Didelphis virginiana* Kerr). The author has made a study of the subject for over 40 years and has written this book largely on the basis of his observations and experiments. The scientific information combined with the author's humorous style makes the book interesting reading both for zoologists and for naturalists in general. The chapters on the development of the embryo and birth of the young and migration to the pouch are noteworthy.

HAYES, CATHY

The ape in our house. New York: Harper & Brothers, 1951. 247 p. illus. 22 cm. \$3.50 754

Contents (abridged). Part I. The first elephant meets: W. don't baby! Vegetables: please. Grandma visits the Country. Under spreading pine tree. Queen what Vidi did today! Teaching an ape to talk. Enter the sick. Vidi's second Christmas. The very strange case of the imaginary peltrey Vidi and the child. Part II. The second elephant meets: Vidi and the caged ape. Ape is ape and cat is cat. The ape. A cup of good cheer. W. don't need talking ape. Part III. Is answer to your question—Capeable. Permacapable and public madhakes. What funny place for too! Aches and weas. The nature of the beast. It's only the legends. Author's note—hunts you might enjoy.

Note: An account of the first three years in the development and growth of Vidi, female chimpanzee adopted as birth by a young scientist and his wife and raised in their home in Orange Park, Florida. In such the same manner as human baby would be raised in similar environment. The results are of interest to the lay reader as well as to the zoologist and psychologist.

LINSDALE JEAN MYRON, AND LLOYD P TEVIS JR.

The dusky footed wood rat: a record of observations made on the Hastings Natural History Reservation. Berkeley Calif. University of California Press, 1951. 664 p. illus. 24 cm. \$7.50 755

Contents: Introduction. Habitat. Home. Animal associates. Behavior. Food. Reproduction. Morphology. Population. Conclusion. Literature cited. Index.

Note: A detailed scientific study of *Neotoma fuscipes*, the dusky-footed wood rat, common-colored nocturnal gnat cat native to parts of Oregon, California, and Baja California. It is based upon original observations made at the Francis and Mary Hastings Natural History Reservation in the northern Santa Lucia Mountains of Monterey County California, over the year period. The photographic illustrations depict the rat and his habitat. Other illustrations include tables and graphs presenting statistics of individual specimens studied.

SIMPSON GEORGE GAYLORD

Horses: the story of the horse family in the modern world and through sixty million years of history. New York: Oxford University Press, 1951. 247 p. illus. 23 cm. \$6.50 756

Contents (abridged). Introduction. Part one. Living horses—What is horses? A look at Equus. Horses and History. Ancient breeds. Some European breeds in America. American breeds and their forebears. Part two. The lineage of the horse: Three-act of horse history. Forebears of the horse. The little Hobbys. Other Equine legends. Early three-toed horses. Later three-toed horses. The horse's relatives. Fables horses. Part three. Horses and evolution. How horses changed. Patterns of evolution. Explanation of evolution. Appendix: Where to see good horses. Where to read more about horses. Index.

Note: In this book for lay reader the main emphasis is on the evolution of the horse, but information on many other topics is also included. Examples of the supplementary topics are: discussion of the inheritance of color and description of the work of Edward H. Rieupey in photographing the parts of horses. There are about 80 illustrations reproduced on 12 plates. A directory of museum collections of fossil horses, and a selected bibliography. Through popular treatment, the book meets reading by anyone with natural interests in the subject. The author is Chairman of the Department of Geology and Paleontology of the American Museum of Natural History.

The early development of the animal and its embryonic appendages. Development of the pig to the ten different stages. The later development of the pig. The skeleton, teeth, hair, hoofs and horns. Index.

Note: (1144) A standard textbook for introductory college courses in vertebrate embryology. The third edition is changed from the second edition (1911) in the following respects: the subject matter and the bibliography have been brought up to date; certain passages have been clarified and amplified, the sections dealing with the Amphibia and the chick have been revised to incorporate important material along with descriptive facts; the embryology of the pig has been added; and the general discussion of the cell has been shortened.

QUIRING DANIEL PAUL

Functional anatomy of the vertebrates. New York McGraw-Hill Book Company, Inc. 1950 624 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences, E. J. Boell, consulting editor) \$6.00 763

Contents: Form and structure. Classification. The integument. The skeleton. The musculature. The nervous system. The sensory organs. The digestive system. The respiratory system. The circulatory system. The secretory and reproductive systems. The excretory glands. Anthropology. Functional anatomy. Appendix. Glossary. Index.

Note: A compact introductory presentation in which—as the title indicates—the main emphasis is on function. In most chapters considerable space is given to the anatomy of man and the complete vertebrate thus is simpler to learn. The high proportion of reference data is unusual in an introductory text. Included is a long table titled "Body and organ weights of 344 vertebrates" that gives comparative weights of organs for many animals and was apparently based on field studies made by George W. Cline and Oscar McIlwain. Cline, the author is Head of the Anatomy Department of the Cleveland Clinic Foundation.

ROMER, ALFRED SHEPWOOD

The vertebrate body Philadelphia W B Saunders Company, 1949 643 p. illus. 24 cm. \$6.00 764

Contents: Introduction. The vertebrate phylum. What's new among the vertebrates. Cells. The early development of vertebrates. The skin. The skeleton. The skull. Muscular system. Mouth, pharynx, respiratory organs. Digestive system. Excretory and reproductive systems. Circulatory system. Body cavities. Sense organs. The nervous system. Appendix: A synopsis of classification of vertebrates. Scientific terminology. References. Index.

Note: A textbook for use in introductory courses in comparative anatomy offered to premedical and other students with more than casual interest in the subject. The presentation is truly comprehensive without special emphasis on man. There are 345 figures. Nine-page glossary and selected annotated bibliography.

TAYLOR, WILLIAM T AND RICHARD J WEBER

Functional mammalian anatomy (with special reference to the cat) Illustrated by Thomas Courtney Lee. New York D Van Nostrand Company Inc., 1951 575 p. illus. 24 cm. \$7.25 765

Contents: Introduction. The mammalian integument. The skeletal system. The muscular system. The nervous system. Special sense organs. Blood circulatory system. The lymphatic system. The respiratory system. The digestive system. The urinary system. The reproductive system. The excretory system. Material for the rapid description of the cat. Appendix. Index.

Note: In this introductory text the anatomical descriptions include more descriptions of functions. For instance, in the chapter on the blood circulatory system is attention to the special mammalian feature that is material on such points as the nervous regulation of the heart rate. The purpose of the dynamic or functional approach is to encourage the student to correlate form and function and thus avoid thinking of anatomy as mere catalogues of body parts. The book is both classroom text and laboratory manual. It includes, as noted in the table of contents, material for descriptive. Another unusual feature is detailed treatment of the nervous system. The authors are members of the faculty of Georgetown University.

WALTER, HERBERT EUGENE, AND LEONARD P SAYLES

Biology of the vertebrates, a comparative study of man and his animal allies. Third edition. New York The Macmillan Company, 1949 875 p. illus. 24 cm. \$6.50 766

Contents: Part one. The background: Chemical characters. Kinds of vertebrates (classification). The distribution of animals in time (paleontology). Man in the making (anthropology). Units of structure (cytology). Division of labor in tissues (histology). The development of the individual (embryology). Biological characters (morphology). Part two. The mechanism of vertebrate and reproduction: A lack of all trunks (the integument). Intake apparatus (digestive system). Lateral transportation (circulatory system). The release of energy (respiratory system). Output apparatus (excretory system). The preservation of species (reproductive system). Locomotory apparatus (limbs of lateral structure). Part three. The mechanism of motion and locomotion. The skeleton. Production of motion and locomotion (muscles). The conducting factor (nervous system). Parts of organs (sense organs). Bibliography. Index.

Note: (1141) A standard introduction to comparative anatomy and physiology is characterized by clear, somewhat humorous style and by not condescendence. In this edition, prepared by Professor Sayles, five chapters have been rewritten and other changes made in other chapters. A considerable number of the illustrations are new or have been redrawn.

WEICHERT CHARLES KIPP

Anatomy of the chordates. New York McGraw-Hill Book Company, Inc., 1951 921 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences E. J. Boell, consulting editor) \$8.00 767

Contents: Part I. Review of phylum Chordata: Introduction. Classification and natural history. Development of the individual. Part II. Organ systems of vertebrates: Digestive system. Digestive system. Respiratory system and related structures. Circulatory system. Reproductive system. Excretory system. Skeletal system. Muscular system. Circulatory system. Nervous system. Reproductive system. Part III. Representative animals: The mouse, lamprey, The eel, dogfish. The mud puppy. The cat. Summary: Characteristics and abstract. Index.

Note: Most of this introductory textbook is devoted to comparative discussion of the organ systems of vertebrates. In these discussions the main emphasis is on function, but developmental and structural differences are noted also. The third part of the work presents in considerable detail the anatomy of four animals that are widely used for descriptive and study in introductory laboratory courses in biology. The book contains about 800 illustrations of excellent quality and an exceptionally detailed index.

WHELAN, HARRY LEWIS

An introduction to vertebrate embryology Second edition New York McGraw-Hill Book Company Inc., 1949 412 p. illus. 24 cm. (McGraw-Hill publications in the zoological sciences, A. Franklin Shull, consulting editor) \$5.00. 768

Contents: Development. The cellular basis of development. The early development of the frog. An outline of the early development of the chick. The nervous system and the sense organs of the chick. The embryonic development of the chick and its outgrowth. The circulatory system of the chick. The muscular system of the chick. Intracellular development of mammalian. The early embryo and embryonic development of the pig and man. Outline of development in the human embryo. The origin of growth, connective tissue, skeleton, and integument. Human growth and development. Appendix. Index.

Note: (1783) A textbook for introductory courses, written from the standpoint of comparative embryology. A considerable part of the space is devoted to the embryology of the frog and the chick; but as the chapter titles indicate, human embryology is also considered. The first edition appeared in 1930. Although the number of pages in the present edition is unusually the same, important changes have been made. These include: fuller discussion of the embryology of the frog, new material on the human embryo, and the removal of some of the hypothetical material in the appendix. The illustrations are clearly drawn and about forty of them are new in this edition.

MAN

ASHLEY MONTAGUE MONTAGUE FRANCIS
An introduction to physical anthropology
 A revised second edition. Springfield, Illinois
 Charles C Thomas 1951 555 p. illus. 24 cm.
 \$8 75 769

Contents: Introduction. The primates as a zoological group. The origin and evolution of the primates. The origin and evolution of man. The criteria and mechanism of ethnic differentiation. The divisions and ethnic groups of man. The significance of isolates. Differences or the relation between body, mind, and culture. Heredity and the influence of the environment upon man. Appendix. A practical synopsis of methods of measurement in physical anthropology. Bibliography. Index.

Note: (635*) An excellent, inclusive introduction addressed both to general readers and to those with some professional interest in the field such as students of medicine or sociology. It illustrates the scope of physical anthropology and outlines the background knowledge, but is mostly descriptive from the standpoint of physical anthropology of the various groups and divisions of man. The appendix contains an informative and rather full outline of accepted methods of making anthropological measurements of man. The first edition was published in 1941. This edition shows revisions in many sections of the text, although no major changes have been made. Additions and revisions have been made in the literature matter and there are now 114 figures. Literature published since 1945 has been added to the bibliography.

BATES MARSTON
Where winter never comes a study of man and nature in the tropics. New York Charles Scribner's Sons 1952 310 p. illus. 22 cm.
 \$3 50 770

Contents: The point of view. The elements of history. The varieties of tropical man. The varieties of tropical culture. The incidence of civilization. On tropical climates. Climates make the man. The white man's burden. Tropical diseases. Food and diet. Tropical nations. The rain forest. Tropical seas. The economics of the tropics. The varieties of tropical government. The planetary neighborhood. Notes and documentation. A note on the illustrations. References. Index.

Note: A very readable book by a naturalist who has had much experience with living in the tropics and has observed at first hand the white man's adaptation (and lack of it) to the tropical climate and living conditions. One thesis is that the white man's difficulties derive mainly to his unwillingness to go far enough in adjusting his living habits, particularly in suitable clothing. Much of the content of the book consists of discussions of tropical forest, tropical diseases, tropical commerce, etc., and the net result is picture of the tropics as region of vast possibilities since civilized man has learned to adapt himself to it.

BOYD WILLIAM CLOUSER
Genetics and the races of man an introduction to modern physical anthropology With illustrations. Boston Mass. Little, Brown and Company 1950 453 p. illus. 21 cm. \$6 00 771

Contents: Possible approaches to study of man. Genetics. Heredity and environment. Gene equilibrium without evolution. Factors modifying gene frequencies (evolution). The influence of geography on racial distribution. The concept of race. Blood groups. Use of blood groups in human classification. Other human genetic factors. Sexually selected genetic characteristics. Man's past. Man's future. Appendixes: Statistical methods. Mathematical treatments of problems. Index.

Note: In this book modern physical anthropology the scientific basis of genetics upon which it rests, and the way in which genetic knowledge can be applied to the study of mankind are summarized and explained. It is intended as an introduction for the general reader and as a summary for the specialist. The technical survey of statistical and mathematical aspects in the appendix runs to 22 pages.

COON, CARLETON STEVENS AND OTHERS
Races a study of the problems of race for man in man By Carleton S Coon Stanley M Garn and Joseph B Birdsell. Springfield, Illinois Charles C Thomas 1950. 153 p. illus. 22 cm. (American lecture series. Publication number 77. A monograph in American lectures in physical anthropology. Edited by T. D Stewart and others) \$3.50 772

Contents: (abridged) The study of race. Race and the human adaptive changes in the whole body. Surface variations: adaptations to extremes of light and heat under different degrees of insularity—adaptations to dry cold—adaptations to cool, damp climates. Race and evolutionary status. Race and the primitive world. The races of the world. Bibliography. Index.

Note: The main viewpoint in this short but valuable survey is illustrated in the following quotation: "Chicago is the genetic melting-pot of human beings here from taking place for hundreds of millions, through the processes of mutation and selection, without the least or even the knowledge of man himself. A reason for this is that human beings, like other organisms, live in specific physical environments which are not all alike. The authors show that little is known about the genetic relationships between races and other human groups, but they give a good account of environmental influences upon race development via mutations. In the last chapter race is defined as 'A population composed of individuals who sexually interbreed, possess common genetic pool, and seek effects within broad limits.' The racial groups currently recognized by scientific workers in the field are briefly described from the standpoint of physical anthropology. There is a bibliography of 91 citations.

DUBLIN, LOUIS ISRAEL
The facts of life from birth to death. In collaboration with Mortimer Spiegelman. New York The Macmillan Company 1951 461 p. illus. 22 cm. \$4 95 773

Contents: Who we are—the population. The pattern of reproduction. The pattern of marriage. The average American family. Medical domination by divorce, separation, and death. The sick and their care. Mortality—in general. The conquest of tuberculosis. The history of cancer. The control of infection. A disinfectant barrier—permanence and inheritance. An increasing burden—the chronicity of disease. The problem of the rheumatic disease. The burden of infancy and childhood. Our old people. The accident toll. Suicide and homicide. The labor force and the benefits of occupation. Human impairment. Mental health. Other domains of public interest. Our body built. The public health and its administration. How best we live. The effects of war. Selected references. Index.

Note: A reference book of surveys and statistical data on such questions as "What is the most popular age for birth?" and "What are the grades of mental deficiency?" It is not a readable book and is addressed not only to people with serious interests in the data but also to those who like to know for current information. The author is in consultation for the *Microscopic Life* series. The author is an internationally known authority on the use of statistics of living and dying. The bibliography does not list all of the sources used but is primarily selected one for those readers who wish to pursue further information on specific topics.

DUBLIN LOUIS ISRAEL, AND OTHERS

Length of life, a study of the life table. By Louis I. Dublin, Alfred J. Lotka, and Mortimer Spiegelman. Revised edition. New York: The Ronald Press Company, 1949. 379 p. illus. 24 cm. \$7.00 774

Contents: The life span and the life table. The life table as record of progress in the end of the nineteenth century. The gain in longevity in the United States in recent years. Geographic variations in longevity. Biological aspects of the life table. The inheritance of longevity. Biological factors influencing longevity and mortality. The contribution of medical and sanitary science to health and longevity. Forecasts of mortality and longevity. Longevity and mortality in relation to physical conditions. Longevity and mortality in relation to occupation. Application of the life table to population problems. Application of the life table to economic problems. Life tables based on the experience of life insurance companies. Life table construction. Appendix. Life tables. List of sources in life tables. Name index. Subject index.

Note: (1744a) A standard work written by statisticians associated with the Metropolitan Life Insurance Company. Although based on life expectancy tables such as are used by insurance companies, it covers more than the purely quantitative aspects of the subject. Biological and social circumstances which affect the duration of human lives are also discussed; hence the work is of interest not only to the life insurance field but in medicine, public health, and sociology as well. The chapter on biological factors influencing longevity and mortality and that on forecasts of mortality and longevity have been added in this edition. Changes have been made in other parts of the book where advances in knowledge required them. Literature references have been revised. The book now contains 94 tables of data on mortality rates, life expectancies, etc.

KROGMAN WILTON MARION

A handbook of the measurement and interpretation of height and weight in the growing child. Editorial board: Melville J. Herskovits and others. Evanston, Ill.: Child Development Publications (of the Society for Research in Child Development Inc.), Fayerweather Hall East, Northwestern University, 1950. 68 p. 23 cm. (Monographs of the Society for Research in Child Development. Serial no. 48) \$1.50 775

Contents: Foreword. Introduction. Height, weight, and height-weight tables. References.

Note: Height and weight are widely accepted as measures of physical growth. This manual for teachers, pediatricians, and others concerned with child development analyzes such measurements, and discusses the extent to which they may be interpreted as indications of growth progress. Methods of securing accurate measurements and the interpretive statements are supplemented by height-weight-age tables and graphs. An extensive bibliography is included.

LAUGHLIN WILLIAM S. editor

Papers on the physical anthropology of the American Indian. Delivered at the fourth Viking Fund Summer Seminar in Physical Anthropology held at the Viking Fund, September 1949. Edited by William S. Laughlin. The seminar planned by S. L. Washburn. New York: The Viking Fund, Inc. 1951. 202 p. illus. 23 cm. Paper 776

Contents: The problem of the early peopling of the Americas as viewed from Asia, by J. S. Huxford. The sequence of Indian physical types in South America, by M. T. Myer. The Alaska gene pool viewed from the Alaskan Islands, by W. S. Laughlin. The blood groups and types, by W. C. Boyd. The dentition of the American Indian, by A. A. Dahlberg. Some genetic variations in American Indians, by J. N. Rydberg.

Note: A collection of original papers delivered primarily to graduate students working in physical anthropology and related

fields. "The papers presented in this volume reflect in a measure the changing emphasis that is taking place in physical anthropological studies. This is noticeable in the greater emphasis placed on the processes of change, the sequence of types, validity of criteria currently employed and the development of new methods."

MACGOWAN, KENNETH

Early man in the New World. With drawings by Campbell Grant. New York: The Macmillan Company, 1950. 260 p. illus. 22 cm. \$5.00. 777

Contents: This sudden New World. The road of early man. The dawn land of the ages. The great ice age. Early man in the Old World. What the bones have to say. The artifacts of early man. Early man and the great extinction. Pygmies, australoids, and negroids—how? Indians? Did the Indian invent or borrow his culture? The Indian in agriculture. Fables, problems, and half-truths. References in the text. References as to illustrations. Index. **Note:** A readable summation of present-day knowledge concerning the origin of man in America. Besides presenting the various facts and theories regarding the first appearance of man in the New World, the book offers the interested layman good account of the techniques and methods of the professional archeologist. An extensive bibliography is included.

MORTON, DUDLEY JOY

Human locomotion and body form: a study of gravity and man, by Dudley J. Morton, with the collaboration of Dudley Dean Fuller. Baltimore: The Williams & Wilkins Company, 1952. 285 p. illus. 24 cm. \$5.00. 778

Contents (abridged): Part One. Underlying principles of adaptation. *Concepts:* Intake of the world's gravity. Designed function. Specification of the human form. Gravity and organic change. Mechanisms of body balance. Weight distribution in locomotion. The foot in walking. Gravity and muscle action. Structural factors. Physiological economy—Canadian Army foot survey. Postural and locomotor habits. Part Two. Analysis of the walking stride: Post contact and synchronized actions. Weight driven during foot contact. The leverage interval. Hierarchical components of force. Metabolism and locomotion. Rheological and chemical aspects. Metabolic economy in muscle function. Human mortality and lifespan. Bibliographical references. Index.

Note: Anatomical, sociological, postural, and mechanical considerations are coordinated in this comprehensive study. Some attention has been given also to the evolutionary aspects. The first interest rather in medical grounds and on anatomy as necessary to his contribution to an eminently practical in the Department of Mechanical Engineering of Columbia University.

SCHEINFELD ALGAM

The new You and heredity. With special editing in the medical genetics sections by Dr. Morton D. Schweitzer and additional aid by others herein mentioned. Illustrated by the author. Philadelphia: J. B. Lippincott Company, 1950. 616 p. illus. 22 cm. \$6.00. 779

Contents (abridged): The science of genetics. The eternal gene places. What we do inherit. The pathway from birth. "Boy or girl?" Color—eyes. Hair color. Skin color. What will your child look like? "Tires," "cups," and "winks." The "black" genes. The poor man. Sick babies. Slow minds. The blood types. How long will you live? "Black gene" m-i-c-a. The battle of the "IQs." Genes, behavior, and life (sex and mental behavior). Race. Acquired responses and the "instinct." Suggestions for further reading. Index.

Note: (1742a) The modern knowledge pertaining to human heredity is, in this book, described and explained for the non-specialist. The book is outstanding for its lucidness and for the author's unique style whereby he manages to convey scientific information in a way that makes it vital to every reader. The book is packed with facts; and, without "tiring" alarm, these facts are directly related to the reader's own life and person and to those of his fellow man. The first edition was published in 1937. In this edition there is so much newly added material that the book is essentially new work as indicated by the title.

SKILLARDS, ELLAS HOWARD

Early man in America, a study in prehistory. A publication of the Texas Memorial Museum. Illustrations by Hal Story. Austin University of Texas Press 1952 211 p illus. 24 cm. \$4 50 780

Contents: (abridged) Geologic time divisions. Conditions of occurrence and preservation of early man records. Hunters of the plains. The alpehian hunters. The Paleo Indians. Folsom man. Flakely man. The Cordilleran man. The Archaic man. The Gulf coastal plains. Some South American localities. Markings on stone and bone. Origin of American cultures. Large mammals of the late Pleistocene. Time of collection of large mammals. Age determinations of certain cultures compared. List of localities and index to literature. General considerations. Bibliography. Index.

Note: Although written in narrative style, this book is primarily a reference book on the sites (and the artifacts found at each) where important evidence has been found on man's existence in North America in prehistoric times. Sites of discoveries are specifically described and particular attention is given to the relative positions of projectile points, scrapers, animal bones, and other artifacts found in each. Dates of artifacts as established by the radiocarbon method are given in many instances. The list of localities and index to literature occupy about half of the volume.

SHUTTLEWORTH FRANK KAYLEY

The adolescent period a pictorial atlas. Evanston, Ill. Child Development Publications, 1951 69 p illus. 24 cm. (Society for Research in Child Development, Inc. Monographs. Vol. xiv no 2) Paper 781

Contents: Physical growth and sexual maturation of girls. Stages of sexual maturation among girls. Sexual maturation of boys. Individual differences in the sexual maturity of boys. Stages of sexual maturation among boys. Types of obesity. Variations in body build at age fifteen. Skeletal's development. Effects of partial starvation on development. Appendix. References.

Note: A monograph that contains largely of photographs with descriptive legends and brief explanatory text. The monograph is designed and the photographs selected "to illustrate the processes of physical growth, sexual maturation, and differences in body build among normal adolescents. The work is comparable volume to the author's *The adolescent period*, originally published in vol. XIV no. 1. In the same series (see index)

STERN, CURT

Principles of human genetics. Illustrations by Aloha M. Hannah. San Francisco W. H. Freeman and Company 1949 617 p illus. 24 cm. (A series of biology texts editors George W. Beadle and others) \$6.25 782

Contents: Introduction. The biological basis of man's inheritance. Genetic action. The inheritance of genes with 24 chromosomes—autosomes. Probability. Simple single factor inheritance. Lethal and sublethal genes. Problems of genetic advances. Genetic ratios. The Hardy-Weinberg law. Multiple alleles. Mendelian applications of genetics. Sex-linkage. Linkage and crossing over. Irregularities in the expression of genes. Prenatal inheritance. Mendelian inheritance. Concomitancy. Sex determination. The sex ratio. The occurrence of mutations. The production and significance of mutations. Heredity and environment. Selection and genetics. Genetic aspects of race. Genetic aspects of race mixtures. The origin of human diversity. Index.

Note: This book is designed primarily for use in college courses. A course in general genetics is not presupposed, but the level of discussion implies at least previous course in general biology. The authoritative discussions on such topics of general interest as the genetic aspects of race make the book useful as general library collections. Selected lists of references accompany the chapters. The author is a member of the faculty of the University of California.

STOLZ, HERBERT ROWELL AND LOIS MIREX STOLZ

Somatic development of adolescent boys a study of the growth of boys during the second

decade of life. New York The Macmillan Company 1951 557 p. illus. 24 cm. \$9.00. 783

Contents: The study of human development. The California adolescent study. Description of the study and somatic development of boys. The period of pubertal growth in height. Growth in height during adolescence. Growth in arm length and leg length during adolescence. Growth in body weight during adolescence. Timing variations among phenomena of skeletal growth during adolescence. Skeletal age in relation to height growth. Changes in thickness of subcutaneous tissue during adolescence. Growth in thick circumference during adolescence. Changes in weight during adolescence. Growth in strength during adolescence. The development of pubic hair and axillary hair during adolescence. Increase in adipose tissue during early adolescence. The rhythm of growth during adolescence. General summary and conclusions. Relative of somatic changes to other developmental phenomena during adolescence—the case of Ross. Appendix (abridged): Subcutaneous tissue index. Muscle strength index. Index.

Note: As part of the California Adolescent Study program and detailed measurements were made of the body changes of 112 boys and 131 girls over approximately seven years. The data on the boys are presented and interpreted in this book. A considerable part of the presentation is made in tables—of which there are more than 100—and graphs, of which there are nearly as many. However, the data are also discussed fully. Perhaps the most noteworthy feature is the inclusion of many photographs which portray stages in male adolescent development. The final chapter is a longitudinal study of one boy in which somatic development is correlated with changes in personality and social behavior. The book is of interest to specialists, psychologists, pediatricians and other scientists with professional interests in the subject.

TALLMADGE, GUY KASTEN

Basic biology of man. New York Random House, 1952 244 p. illus. 21 cm. \$3.00. 784

Contents: The cell. Tissues. Basic structure and organization. The digestive system. The locomotor apparatus. The digestive system. The excretory system. The circulatory system. The respiratory system. The urinary system. Index of subjects. Index of names.

Note: An introduction designed for general reading rather than textbook use. The author has presented factual outlines of the human biological processes, and has avoided emphasis on spectacular aspects. There are only few illustrations and these are the pleasant kind of drawings. The book is suitable for serious lay readers who desire reliable rather than "breezy" accounts.

WATSON ERNEST H., AND GEORGE H. LOW REY

Growth and development of children. Chicago The Year Book Publishers, Inc. 1951 260 p. illus. 23 cm. \$5 75 785

Contents: Introduction. Heredity and environmental factors. Fetal growth and development. Marrow physical measurements. The premature child. Behavioral development. Organ development. Growth development. Role of the endocrine glands in normal growth and development. Energy metabolism. Nutrition in normal growth. An outline of abnormal growth. Index.

Note: An inclusive, up-to-date survey of the essential current knowledge of growth during childhood. It is suitable for use as textbook and also as a reference work for physicians, public health workers, social workers, etc. Selected illustrations are included. The authors are associated with the Department of Pediatrics of the Medical School of the University of Michigan.

WECHSLER, DAVID

The range of human capacities. Second edition. Baltimore The Williams & Wilkins Company 1952 190 p. illus. 23 cm. \$4.00 786

Contents: Introduction. The problem. The measurement of human capacities. The distribution of traits and ability. The range of human capacities. Natural constants and the limits of human variability. Range in productive operations. Length of life and the factors of survival. Exception. The effect and the burden of age. Genius and deficiency. The meaning of differences. Appendix: The measurement of mental ability. Tables of scores, standard deviations and range index. Distribution of total range index. References. Index.

Note: The theme of this work is that human variability with respect to any measurable trait or ability is extremely limited when compared to that of other phenomena in nature and that the differences which separate human beings from one another with respect to any trait or ability are far smaller than is ordinarily supposed. The author suggests that the reader in considering the data which support the theme, lay aside any previous opinion he may have held in the matter, since the conclusions have important bearings on a number of social questions. The bibliography of 174 references indicates the sources from which the presented facts are drawn. The book was first published in 1931 and has been out of print for some years. In preparing this edition the author added two chapters and substantially revised some of the material carried over from the first edition.

WEIDENREICH, FRANZ

The shorter anthropological papers of Franz Weidenreich published in the period 1939-1948. A memorial volume compiled by S. L. Washburn and Davida Wolfson. New York: The Viking Fund, Inc., 1949. 267 p. illus. 23 cm. Paper. 787

Contents: The trend of human evolution. The human brain in the light of its phylogenetic development. Generic, specific and subspecific characters in human evolution. The brachycephalization of recent man. The cultural behavior of the human later cultural. Some problems dealing with ancient man. The "Neanderthal man" and the evolution of "Homo sapiens". Facts and speculations concerning the origin of Homo sapiens. Some particulars of skull and brain of early hominids and their bearing on the problem of the relationship between man and anthropoids. The duration of life of fossil man in China and the pathological lesions found in his skeleton. On the earliest representatives of modern manhood recovered on the soil of east Asia. The Kiefer skull—a Weidenreich type from southern Australia. The palaeolithic child from the Teuch Tach cave in southern (Tasmania) (central Asia). Franz Weidenreich, 1873-1948, by W. E. Gregory. Bibliography.

Note: Dr. Weidenreich was noted for his work in the fields of human evolution and anthropology. These papers, republished from various scientific journals and representative of his primary interests, are but a small part of his writings. A biographical sketch and

complete bibliography of Weidenreich's publications from 1899 to 1949 are included.

YEARBOOK OF PHYSICAL ANTHROPOLOGY 1950, Volume 6 Edited by Gabriel W. Lasker and J. Lawrence Angel. New York: Wenner Gren Foundation for Anthropological Research, Inc., 1951. 314 p. illus. 27 cm. 788

Contents: Some old hypotheses tested and some new theories advanced. The evolution of physical anthropology during 1950, by G. W. Lasker. The scope of physical anthropology: what is to be taught, by B. A. Knipen. The evolutionary significance of the Australopithecines, by J. T. Robinson. Age of puberty in the tropics, by R. W. B. Kline. The blood groups of the people of Egypt, by J. A. Desmages and others. Taste sensitivity for phenylthiocarbamide in African Negroes and Chinese, by W. A. Sarskott. Ethnology of achromasia in Uganda, by R. E. Kline-Dew. The incidence of sickle cell trait in Negroes from the San Island area of South Carolina, by F. K. Satter. Limitations of the "normal" body weight as a criterion of normality, by J. B. Smith and A. Keys. Evaluation of human fitness in man—a survey of methods, by J. B. Smith and A. Keys. The physical development of man, by A. H. Schultz. Man's relation to the ape, by W. C. Osman Hill. Man and other mammals from Tintin's tales in south-western Chilean, by D. A. Huxford. The racial origin of the extinct Tasmanians, by J. B. Smith. The MOKS blood groups of Australian aborigines and New Guinea natives, by R. Sanger. A bibliography and historical review of physical anthropology in Canada, 1844-1949, by R. E. Popenoe. Criminal injuries in prehistoric man with particular reference to the Neanderthals, by C. B. Cowell. On the prediction of human history from the long bones, by A. Tölgel. Transitory and human evolution, by S. Zuckerman. A comparison of the teeth of people—into-European racial stock with the Mongolian racial stock, by R. E. Tuzin.

Note: A typical issue of this journal. It supplements the *American Journal of Physical Anthropology* by reviewing the literature of the field and by reprinting pertinent articles which were first published in periodicals other than the *American Journal of Physical Anthropology*. The last article is a compact summary of the world literature published during the year. It is accompanied by a comprehensive bibliography.

HUMAN ANATOMY

GENERAL

ANSON, BARRY JOSEPH

An atlas of human anatomy Philadelphia
W B Saunders Company 1950 518 p. illus.
(part col d) 28 cm. \$11.50 789

Contents (abridged) The head. The neck. Upper extremity. The
back and thorax. Abdomen. The pelvis and perineum. Lower
extremity. Index.

biology. The atlas of gross breast anatomy in which most of the illustrations are original and were made directly from the dissections. The exceptions are certain illustrations previously published with articles by the author in professional journals. Also there are a few pieces of generalized drawings based on statistical study of laboratory specimens. Generally speaking, however, the book can be described as wholly new work based on direct study rather than on previous publications. The quality of the drawings and their representation of the actual dissections is quite high, for as far as I am aware, in first year courses in medical anatomy and as an office reference book for students, physicians and surgeons.

CATES HARRY ARTHUR

Primary anatomy Second edition. Baltimore The Williams & Wilkins Company 1951 344 p. Illus. 26 cm. \$6.00 790

Contents: The beginning of life. Skeletal system. Articular system. Muscular system. Digestive system. Respiratory system. Urinary system. Generative or reproductive system. Circulatory system. Nervous system. Eye and ear. Skin and endocrine glands.

Wess. (973) A textbook of human anatomy for students such as students, nurses, physiotherapists, and occupational therapists whose interests in the subject are professional but not medical. With such an audience in mind the author has chosen the functional approach rather than the topographical, and he has written longer and more detailed chapters on the skeletal, muscular, nervous, and circulatory systems than on other systems. The style is less technical than in most introductory books on anatomy. Extensive revisions are apparent in the second edition, although the chapter titles are the same. About one-quarter of the 461 illustrations are new or have been redrawn.

DICKINSON ROBERT LATOU

Human sex anatomy a topographical
hand atlas. Second edition. Baltimore The
Williams & Wilkins Company 1949 145 p.
illus. 31 cm. (National Committee on Mater
nal Health, Inc. Medical aspects of human
fertility) \$10.00 791

Contents (abridged) Text and commentary. Purpose and methods. The bony pelvis. Uterus, ovaries and tubes. The vagina. The vulva and breast. Male genital anatomy. The anatomy of coitus. The anatomy of the control of conception. Conclusions and program. Bibliography. The atlas proper. Index.

Notes. A very detailed work containing 175 figures, some of which contain data on the dosage and level of which contain only text. The drawings are original but some are based on illustrative matter which has appeared elsewhere. Most of these are sketches rather than fully developed anatomical studies. The drawings are preceded by text in which they are described and discussed with reference to an extensive bibliography. This text accounts for the pagination given above the illustrations are printed on unnumbered pages of which there are approximately 200. The presentation is slanted toward the general practitioner of medicine. The practice includes an education and advice to married couples. However it is the full treatment of the subject available and therefore is potentially of value to any medical school graduate in need of information on the subject.

FRANCIS, CARL C

The human pelvis. With 61 illustrations including 3 in color. St. Louis The C. V. Mosby Company 1952 210 p. illus. (part col'd) \$5.00. 792

Contents. Bones of the pelvis. Ossification of the pelvic bones. Pelvic articulations. Pelvic girdle. Muscles and fascia. Vessels of the pelvis. Pelvic nerves. Intestine within the pelvis. Urinary system within the pelvis. Female genitalia. Male genitalia. Embryology Index.

Notes: A detailed description of the anatomical structure of the human pelvis, with more attention to partly on the literature and partly on author and his colleagues at Western the text and some of the illustrations. The book is the development of all the graduate level and is intended for the instruction of post-graduate students preparing for research. Carefully selected literature references are included.

GRANT, JOHN CHARLES BOILEAU

An atlas of anatomy By regions. Third edition. Baltimore The Williams & Wilkins Company 1951 637 p illus. (part col'd) 29 cm. \$12.00. 793

Contents: The upper limb. The abdomen. The perineum and penis. The lower limb. The cranium and the vertebral column. The thorax. The hand and wrist. The vocal organs and the diaphragm. Index.

The head and neck. The cranial nerves and its derivations. *Neurology*. (1973) An outstanding work of its kind. It contains information on anatomy with accompanying radiographs. The illustrations are arranged in regular order in sections within regions. The authors accompany the artists who prepared the drawings worked with the dissected specimens before them and built up their drawings as tracings made from photographs of the same specimens. In the present edition there are 317 figures, most of which contain more than one drawing. Several of these are new additions and to the references or subreferences for these figures that appeared in the previous edition. The color has been used in many of the dissections in the present edition.

GRANT JOHN CHARLES BOILEAU

A method of anatomy *descriptive and deductive* Fifth edition. Baltimore The Williams and Wilkins Company 1952 870 p. Illus. 26 cm. \$7.00 794

Contents: Section 1, General: Bone and cartilage. Digestive system. Section 2, The upper limb: Introduction. Carpal bones and radius. Flexor region of the forearm. Section 3, The abdomen and thorax abdominal wall. Abdominal cavity. The three peritoneal glands. Section 4, The pelvis and perineum. Perineum. Male and female pelvis. Section 5, The head and neck. Introduction. Lig and muscles of the head. Neck. Section 6, The thorax. Bony thorax. Pleuropericardium and mediastinum. Section 7, The hand and wrist: Front of the hand and the face. Posterior triangle of the neck. Contents of the axilla. Anterior triangle of the neck. Cervical vertebrae and the prevertebral region. Pharynx. Larynx. Section 8, Miscellaneous. Autonomic nervous system. Bones of the skull. Index.

Notes (876.) A successful textbook for first-year students in medical colleges. It is less voluminous than some basic texts and the brevity has been achieved partly by the use of small diagrammatic figures instead of plate type drawings and partly by compact and ably written text. The understanding of chapters is supported. The fourth edition was published in 1948. In preparing this edition the author corrected minor errors and added material in several sections. 60 illustrations were redrawn or improved in some way and 75 illustrations were added.

THOREK, PHILIP

Anatomy in surgery 720 illustrations 211 in color drawn by Carl T. Linden Philadelphia J. B. Lippincott Company, 1951 970 p. illus. 26 cm. \$22.50. 795

Contents: (abridged) Section one, The head. Section two, The neck. Section three, The thorax. Section four, The abdomen. Section five, The pelvis. Section six, Male perineum and external genitalia. Section seven, Female perineum and external genitalia. Section eight, The superior extremity. Section nine, The inferior extremity. Section ten, Vertebral column, vertebral (spinal) canal, spinal cord. Index.

Note: In this textbook for students in medical colleges anatomy is presented from the surgeon's viewpoint. The material is organized in 49 chapters arranged by regions of the body as indicated by the section titles. The exposition is condensed in clear, direct style and the illustrations are of high quality. The author is member of the faculty of the College of Medicine of the University of Illinois.

SPECIAL REGIONS AND ORGANS

BAST THEODORE HIERONYMUS, and BARRY J. ANSON

The temporal bone and the ear Springfield, Illinois Charles C Thomas 1949 478 p. illus. 24 cm. \$12.00. 796

Contents: The temporal bone and the ear. The ear. The middle ear. The external ear. The ear capsule. Histological variations and pathological processes. Bone development. The ear and development of the middle ear and related structures. The auditory system. A historical survey of the structure and function of the internal ear. Index of authors. Index of subjects.

Note: A substantial monograph on the morphology and embryological development of the temporal bone and the ear. It is based mainly on direct studies of more than 150 sections of sections. It is illustrated with remarkable series of microphotographs, drawings of reconstructions, and drawings from projections. Groups of animal tissues. Thirty of the illustrations are reproduced in color. The final chapter is an outline of outstanding studies of the lower ear from 150 A. D. to 1919 A. D., and is supplemented by selective bibliography.

FRIEDMAN SYDNEY M.

Visual anatomy—head and neck. Springfield, Illinois Charles C Thomas, 1950 217 p. illus. 25 cm. \$7.50. 797

Contents: Anterior aspect of the neck. Lateral aspect of the neck. The suprathyroid region. The submandibular region. The skull. The infratemporal region. The continuity of temporal and infratemporal regions. The parotid region. The face and jaw. The skull. The orbit. The nose. The auditory apparatus. The ear. The back of the neck. The cervical vertebrae. Lymphatics. Index.

Note: Not conventional atlas but selective, compact treatment designed for use by upperclass students in medical colleges and students in need of review or as the author terms it, "review text." It is organized so that, deriving on the right-hand page from the verbal descriptions on the left-hand page. The sequence of drawings is from the inside out, or the reverse of the traditional arrangement of anatomical atlases. The drawings are diagrammatic rather than literal renderings.

HOLLINSHEAD WILLIAM HENRY

Functional anatomy of the limbs and back a text for students of physical therapy and others interested in the locomotor apparatus. Philadelphia W B Saunders Company 1951 341 p. illus. 24 cm. \$6.00. 798

Contents: (abridged) Section I, The organization of the body: Anatomical terminology. The tissues of the body. The organs and organ systems. Section II, The upper limb: The shoulder. The arm. Forearm and hand. Actions of forearm muscles. The hand. Movements of the fingers. Section IV, The lower limb: The pelvis, buttocks and hip. The thigh and knee. The leg. The foot. Index.

Note: An introductory textbook for the use of students who are preparing for careers as physical therapists, physical education instructors, etc. The author is Head of the Section on Anatomy of the Mayo Clinic.

LERCHE, WILLIAM

The esophagus and pharynx in action, a study of structure in relation to function. Springfield Illinois Charles C Thomas, 1950. 222 p. illus. 24 cm. \$6.50. 799

Contents: Introduction. The muscular coat of the esophagus. The connective and muscular coats of the esophagus from cardia to esophagus, as observed in specimens in which characteristic markings pertaining to the act of deglutition had survived. The myofibrils. The pharyngo-esophageal elastic membrane. Relaxation—contraction. The movement of regurgitated contents through the lower esophagus. The movement of regurgitated contents through the middle and upper esophagus. The cricopharyngeus muscle. Mechanism of deglutition. The cardia. The mechanism of the gastro-esophageal segment of esophagus during the act of deglutition in man. Appendix. Bibliographical index. Author index. Subject index.

Note: An original work based chiefly on the study of one hundred specimens obtained by directing camera. On the basis of these studies, the author elucidates the relations of structure and function in the peristaltic of the esophageal canal that extends from the cardia to pharynx and includes these organs. Pertinent material from published literature is also included. There are 93 illustrations of which considerable number are reproduced from photographs of specimens. The book is of interest to anatomists and wide range of medical practitioners.

NERVOUS SYSTEM

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Patterns of organization in the central nervous system. Proceedings of the association, December 15 and 16 1950 New York. With 268 illustrations and 12 tables. Baltimore The Williams & Wilkins Company 1952 581 p. illus. 23 cm. (Association for Research in Nervous and Mental Diseases. Research publications. Vol. xxx. Editor Philip Bard) \$12.00. 800

Contents: Central versus peripheral factors in the development of coordination, by F. W. W. The summation small-nerve fibers—a system for efficient nervous regulation of muscle spindle discharge, by R. W. Kuffner and C. C. Hunt. On reflex actions of muscular origin, by D. F. C. Lloyd. Reflex patterns in intermuscular systems, by C. G. Berthod. An electrical hypothesis of central inhibition and facilitation, by W. R. McCallister and others. Patterns of organization of tendon release triggered by knee jerk reflexes, by M. Hanes and G. C. Knowlton. Spinal reflex patterns in man, by J. W. Magor and others. A study of cortico-spinal activation of motor movement, by J. M. Rosenblatt. Brain stem influences on spinal motor activity, by D. R. Lundberg. Supraspinal mechanisms of facilitation and inhibition of cord reflexes, by G. M. Austin. Motor phenomena elicited in the unanesthetized animal by electrical stimulation of the cerebral cortex, by J. W. Ward. Patterns of localization in precentral and "supplementary" motor areas and their relation to the concept of "promotor areas," by C. M. Woolsey and others. Interrelations of cerebellum and brain stem, by R. B. Fisher. Cerebellar patterns in cerebellum and brain stem, by J. W. Markham and others. Cerebellar-cerebellar projections and the postulated localization of motor function in the cerebellum, by J. L. Hanes and others. Cerebellar projections to the cerebral cortex, by E. Hanes and others. The central representation of some forms of deep sensibility, by V. R. Mountcastle and others. Interactions in the somesthetic projection system, by V. R. Mountcastle. Topographical and functional determinants of cortical localization patterns, by T. C. Ruch and others. Functional representation of central visual pathways, by H. T. Chang. The cortical representation of the reticular complex of the thalamus, by J. K. Rosen. The ascending reticular activating system, by H. H. Jasper and others. Thalamocortical integrating mechanisms, by H. H. Jasper and C. Alajouanine-Mazza. Epileptic associations and the corticocortical integrating system, by W. Penfield. Functional interpretation of somesthetic patterns, by K. S. Lundberg. List of members. Index.

Notes: A collection of original papers designed to present the latest developments in how the central nervous system works. Most of the papers are accompanied by excerpts from the discussions at the meeting and by references to the pertinent literature.

BAILEY, PERCIVAL, AND GERHARDT VON BONIN

The isocortex of man. Urbana University of Illinois Press 1951 301 p. illus. (part col d) 27 cm. Paper, \$5 00, cloth, \$6 00 801

Contents: Historical introduction. Growth and weight of the brain. Fibers of the brain. Cortical types. Serial sections. The brain map. Interstitial connections. Afferent and efferent connections. Functional significance. Bibliography. Index.

Note: A brain study of the isocortex of the human brain based mainly on six unusually good specimens that were fixed within one hour of death. The findings of this particular study are correlated with the findings of other workers in the field. As a result of this study and study of the published writings of other workers, the authors state after long and careful study of the human isocortex, the main impression that we have retained is that vast areas are so closely similar in structure as to make any attempt at sub-divisions unprofitable if not impossible. Nevertheless, in their chapter on the brain map and in subsequent chapters they discuss critically the findings and conclusions of others and state certain tentative conclusions of their own on this aspect of brain study. The bibliography is extensive but not exhaustive. There are more than 120 figures—many of which bear reproductions of more than one drawing—and fifteen plates.

BUCHANAN, ARCHIBALD RAY

Functional neuro-anatomy, including an atlas of the brain stem. Second edition thoroughly revised. With 273 illustrations, 19 in color Philadelphia Lea & Febiger, 1951. 323 p. illus. (part col d) 27 cm. \$7.50 802

Contents: (abridged) Development and histology of the nervous system. Division of the nervous system. The spinal cord. The brain, pons, and medulla. The proprioceptive pathways. External and internal connections of the brain stem. Relations within the brain stem of the general sensory pathways. The pathways concerned in the conduction of general afferent impulses from the head region to the thalamus. The special sense of taste, hearing, equilibrium, sight, and smell. The lateral capsule. The cerebellum. The sensory areas of the cortex. The cyto-architectures of the parietal, temporal and occipital lobes. The motor cortex and its projections. The lower motor neurons. The cerebellum—its afferent and efferent connections. Extrapyramidal areas of the cerebral cortex and extrapyramidal tracts. The hypothalamus. The visceral efferent (autonomic) system. The basal ganglia. The rhinencephalon. The ventricles of the brain. The cerebrospinal fluid. The blood supply of the central nervous system. The histological tissue of the central nervous system. Bibliography. Index.

Note: A relatively brief text, written primarily for medical college students. As the title and chapter organization indicate, the subject is presented from the standpoint of function rather than "level." The first edition appeared in 1940. The major changes made in this edition were the adding of 73-page atlas of the brain stem. The author is Professor of Anatomy in the University of Colorado School of Medicine.

BUCH PAUL CLANCY editor

The precentral motor cortex. Second edition. Urbana, Illinois The University of Illinois Press, 1949 615 p. illus. 28 cm. \$6 00 803

Contents: Foreword, by J. F. Fulton. Introduction, by P. C. Bucy. Architecture of the precentral motor cortex and some adjacent areas, by G. von Bonin. The role of architecture in deciphering the electrical activity of the cortex, by J. L. O'Leary. Afferent connections, by A. E. Walker. Efferent areas, by F. M. Lewis. The pyramidal tract, by S. S. Towner. On efferent and inhibitory processes within the motor cortex of the brain, by M. Balaban and R. Haxelbaum, translated by G. von Bonin and W. E. McCulloch. Cortico-cortical connections, by W. S. McCulloch. Somesthetic functions, by M. A. Kennard. Relationship to the cerebellum, by P. Bailey. Autonomic function, by M. A. Kennard. The frontal eye fields, by W. K. Zach. Electrical excitability in man, by T. C. Kiddam.

Effects of colligation in man, by P. C. Bucy. Relation to abnormal involuntary movements, by P. C. Bucy. Clinical symptomatology, by C. D. Aring. Pathology, by C. Davidson. Significance of the precentral motor cortex, by M. Hines. Bibliography. Index.

Note: (1942) When the first edition of this work appeared in 1944 it was widely recognized as a valuable critical evaluation of the field at that time. In the present edition the titles and authors of the monographs that constitute the chapters are the same. However, changes, some of which amount to complete rewriting of paragraphs and others as small as the change of single references, are scattered throughout the work. The bibliography has been revised to include literature published as late as 1948. According to the editor, this is the final edition of the book.

CONNOLLY, CORNELIUS JOSEPH

External morphology of the primate brain. Springfield, Illinois Charles C Thomas, 1950 378 p. illus. 25 cm. \$10 00 804

Contents: The external pattern of the primate brain. Macrophysics. Development of the cerebral sulci. The brain of the newborn and of children. The external pattern of the hominid brain (Naples and Waller). Brain and race. The relation of the sulci to the cortical areas. Endocrinal casts and brain function. Some special relations in the macropeloid and in the human brain. The external pattern of the endocrinal casts of prehistoric man. On homologies and the origin of sulci. Bibliography. Index.

Note: A new study based on material in the Hershman Collection of the United States National Museum. Particular brains in the collection are identified and described. Descriptions of individual brains or their syntheses in summary descriptions of the brain characteristics of families and other biological groups. The author stresses the importance of the sulci in brain mapping and finally discusses the origin and the relations of these features to cortical areas. There are 537 figures and an extensive bibliography.

KUNTZ, ALBERT

A text book of neuro-anatomy Fifth edition, thoroughly revised, with 331 illustrations. Philadelphia Lea & Febiger, 1950 524 p. illus. 24 cm. \$8 00 805

Contents: Evolution and comparative anatomy of the nervous system. Development of the nervous system. Nerve and supporting tissue. Anatomy of the central nervous system. The cerebellum, pathway and the blood vessels of the central nervous system. Myelination. Reflex and integrating mechanisms. The cerebral cortex. Internal structure of the spinal cord. Pathological and clinical conditions of the nervous system. The visual system. The somatosensory system. Critical connections of the cerebral cortex connected with the motor system, the pons and the autonomic system. The cerebellum. The diencephalon. The visual apparatus. The olfactory apparatus. The telencephalon. The autonomic nervous system. Conditioned responses. Laboratory outline. Index.

Note: (645*) A long-established introductory text for medical college students. Although the treatment emphasizes the anatomical aspects, the author stresses the importance of understanding the nervous system as dynamic organization. Particular attention is called to scientific knowledge on the architecture and functioning of the nervous system which has been derived from experiments in recent decades. Changes made in preparing this edition were extensive, but important information derived from recent experiments has been added, some changes have been made in the illustrations, and new recent articles have been added to the bibliography.

KUNTZ ALBERT

Visceral innervation and its relation to personality Springfield, Ill. Charles C Thomas, 1951 152 p. illus. 23 cm. (American lecture series. Publication no. 115 A monograph in American lectures in anatomy edited by Otto F. Kampmeier) \$4.50 806

Contents: General plan of somatic and visceral innervation. The autonomic nervous system. Reflex and integrating centers and central conduction pathways concerned in visceral functions. General physiology. Innervation of specific viscera. Visceral neural factors in personality. Bibliography. Index.

Note: The first five chapters, which account for 115 of the book's pages, are devoted largely to describing the nervous system of the viscera. The last three chapters, including the innervation of specific organs. Only in the last chapter does the author discuss the relation

between this innervation and the personality. Here the author reviews the published work, including his own, and reaches such conclusions as: "The visceral nerves still remain the mirror-images of conduct, but it is man the control of conduct, in large measure, is carried out through cortical mechanisms of the intellect. There is 1-page bibliography. The author is Professor of Anatomy in the St. Louis University School of Medicine.

LARSELL, OLOF

Anatomy of the nervous system. Introduction by A. T. Rasmussen. Second edition. New York: Appleton-Century-Crofts, Inc., 1951. 520 p. illus. 25 cm. \$9.00. 807

Contents: The gross anatomy of the brain and spinal cord. The meninges and choroid plexus. Development of the nervous system. Structural elements. Receptors and effectors. Functional arrangement of neurons. Peripheral nerves and ganglia. The visceral system. The internal structure of the spinal cord. The cerebral nerve. Internal structure of the medulla oblongata and trapezium. The cerebellum and the pons. The meninges. The diencephalon. The cerebral hemispheres. The cerebral cortex. The thalamus and the olfactory pathway. The lobes of the cerebral cortex with reference to structural features and functional localization. Cortical afferent paths. Blood supply of the nervous system. Index.

Notes: (1948) An introductory textbook addressed to medical college students. Although primarily descriptive treatment, the interrelations between form and function are frequently pointed out. References are made directly to the text to important studies that established specific points of knowledge. The first edition was published in 1942. For this edition the work was extensively reorganized. The material added that appeared at the end of the book has been streamlined, and the material formerly contained in it has been inserted at appropriate places throughout the text. Numerous other changes of pedagogical interest have been made. The final chapter on the blood supply of the nervous system is new. There are now 232 illustrations.

PENFIELD WILDER, AND THEODORE RASMUSSEN

The cerebral cortex of man: a clinical study of localization of function. New York: The Macmillan Company, 1950. 248 p. illus. 24 cm. \$7.00. 803

Contents: Historical notes and methods. Somesthetic representation of the body. Head and eye movement. Representation of autonomic systems. Volitional and arrest of speech. Secondary sensory and motor representation. Vision. Hearing and equilibration. Memory, sensory perception, and dreams. Evidences of cortical regions. General conclusion. Bibliography. Case index. General index.

Notes: This book is based on a long series of brain operations carried out under local anesthesia on human beings. It contains mainly the authors' observations and analyses of the results of removing areas of the cortex during the course of operations and post-operative effects observable in patients' behavior are both reported. Also, observations on the play of epileptic discharge in the cerebral cortex are included. In their final chapters the authors draw tentative conclusions which are compared and correlated with the work of other researchers. The 171 illustrations include a number of photographs taken during brain operations.

SCHMIDT CARL FREDERIC

The cerebral circulation in health and disease. Springfield, Illinois: Charles C. Thomas, 1950. 78 p. illus. 72 cm. (American lecture series. Publication no. 68) A monograph in American lectures in physiology edited by Robert F. Pitts. \$2.25. 809

Contents: Introduction. Arterial considerations. The physiology of the cerebral circulation. The relation of the cerebral circulation to cerebral functional activity. The cerebral circulation of man in health and disease. References.

Notes: A compact but readable synthesis of the current status of knowledge and research relating to the cerebral circulation. The author points out the contrast between physiological thought in this area up to about 1930 and current knowledge and theories. He shows that the development of new methods, particularly Kety's method for quantitative measurement of cerebral blood flow has

completely changed the physiologic picture and greatly extended the valid knowledge. The author describes the modern advances and cites the source articles in which they were first published.

WHITE, JAMES CLARKE, AND OTHERS

The autonomic nervous system: anatomy, physiology and surgical application by James C. White, Reginald H. Smithwick and Florindo A. Simeone. Third edition. New York: The Macmillan Company, 1952. 569 p. illus. 24 cm. (Macmillan surgical monographs) \$12.00. 810

Contents: Foreword, by W. R. Cannon. Introduction. Part I: The historical development of knowledge of the involuntary nervous system. Anatomy of the autonomic nervous system. General physiology. Pharmacology of the autonomic nervous system. Physiology of visceral pain. Methods of study. Part II: Introduction. The sympathetic nerves in peripheral vascular disease. Extracranial: lungs, intestines, and pain. Head, brain, meninges, and spinal cord. Heart and lungs. Hypertensive cardiovascular disease. The lung. Gastrointestinal tract. Genitourinary tract. Part III: Cervical sympathetomy. Thoracic sympathetomy. Abdominal sympathetomy. Paravertebral sympathetomy. Paravertebral injection of sympathetic root and ganglia. Paravertebral sympathetomy by crushing the neural nerves in the lower extremity. Epithymus. Bibliography. Index.

Notes: (1947) Knowledge of the autonomic nervous system is still incomplete, but the available knowledge is collected in this book. The main emphasis is on topics of interest in surgery but information is included also on physiology, pharmacology, etc. References are given to the text in the 1-page bibliography. Since the book can be used as a guide to the literature. The second edition was published in 1941. The book was very extensively rewritten for this edition in order to incorporate the great advances in the knowledge of the subject made during World War II. Literature published since 1941 predominates in the bibliography and most of the text has been rewritten.

HISTOLOGY

COWDRY EDMUND VINCENT

A textbook of histology: functional significance of cells and intercellular substances. Fourth edition, thoroughly revised. Illustrated. Philadelphia: Lea & Febiger, 1950. 640 p. illus. 27 cm. \$8.50. 811

Contents: (abridged) Science of histology. Cells as vital units. Blood, the principal integrator. White blood cells. Red cells and other formed bodies. Bone marrow. Mechanism of circulation. Blood vessels. Heart. Drainage of blood. Lymphatic system. Chemical breakdown via the blood. Endocrine system. Intake of material and removal of wastes. Upper alimentary tract. Lower alimentary tract. Liver. Oxygen intake and carbon dioxide elimination. Respiratory system. Regulation of composition of blood. Urinary system. Rapid integration. Nervous system. Organisms and support. Connective system. Movement. Muscular system. Population of cells. Reproductive system. Utilization, protection, adjustment. Skin. Microscopic determination of secondary. Bibliography. Index.

Notes: (1901) A long-established standard textbook which is used primarily in medical college courses. As the section and chapter titles indicate, the correlation of function and form is stressed. Histology is not covered exhaustively but all of the basic data are included and there is also some unexpected material such as discussion of sloughed blood. The third edition was published in 1944. This edition represents considerable expansion and some change in organization which has resulted in somewhat less emphasis on the vascular system. There are 217 figures of good quality and 20 page bibliography.

HAY ARTHUR WORTH

Histology: 445 figure numbers, including 4 plates in color. Philadelphia: J. B. Lippincott Company, 1950. 756 p. illus. (part col.) 28 cm. \$10.00. 812

Contents: (abridged) Part one, What histology is and how it is studied. Part two, Cells, intercellular substances and fluids. Part three, The four primary tissues and their subdivisions: Epithelial

Urems. Connective tissues. Cartilage. Bone. Hemopoietic tissues. Muscular tissues. Nervous tissues. Part four. The histology of the systems: The circulatory system. The integumentary system (the skin and the appendages). The digestive system. The respiratory system. The urinary system. The excretory system. The female reproductive system. The male reproductive system. The system of sensory receptors. The system of articulations. Index.

Note. A textbook for medical college students. The treatment is modern, both in the style of presentation and in the correlation of space allotted to specific groups of diseases and the current clinical interests in them. The text is written in a well-developed style that is easy to comprehend. The illustrations are of high quality. The author is Professor of Anatomy on the Faculties of Medicine and Dentistry of the University of Toronto.

JORDAN HARVEY ERNEST

A textbook of histology Ninth edition. New York Appleton-Century-Crofts, Inc. 1952 687 p. illus. 24 cm. \$9.00 813

Contents. The protoplasm and the cell. Tissues. Connective tissues, cartilage and bone. Muscular tissues. Nervous tissues. Peripheral nerve terminations, and organs. The blood vascular system. Blood. The lymphatic system. Mucous membranes and glands. The skin. The respiratory system. The digestive system. The urinary system. The excretory system. The ductless glands, endocrine glands. The nervous system. The eye. The ear. List of references. Index.

Note. (1952) An established textbook for histology courses offered in pre-medical and medical schools. It is used also as an office reference book by practitioners of medicine. The presentation is from a practical point of view with some data from comparative anatomy included. This edition represents a fair revision. Advancement of recent years including results of tissue culture and electron microscopy have been incorporated. Less essential material is now set in smaller type. There are now 508 figures. The 11-page bibliography contains few references to recent material, but it completes majority of publications issued before 1952.

MAXIMOW ALEXANDER A., AND WILLIAM BLOOM

A textbook of histology Sixth edition. With 986 illustrations. 257 in color on 580 figures. Philadelphia W B Saunders Company 1952 616 p. illus. (part col d) 26 cm. \$10.00. 814

Contents. Introduction. Epithelium. Blood. The connective tissues proper. Blood cell formation and destruction. Cartilage. Bone. Muscular tissues. The nervous tissue. The blood vascular system. The lymphatic system. The spleen. Thymus. Glands. Hypophysis. Thyroid gland. Parathyroid glands. Adrenal glands and paraneurium. The genital body. The skin. The oral cavity and associated structures. The tooth. Esophagus and stomach. The intestines. The liver, bile ducts and gallbladder. Pancreas. The respiratory system. Urinary system. Male genital system. Female genital system. The sensory gland. The eye. The ear. Index.

Note. (1951) The sixth edition of this standard and encyclopedic textbook of histology for medical students has been considerably revised from the fifth edition of 1943, but the latest of the authors remains the same as has the first edition first published in 1930, namely to present morphological and functional descriptions of all the cells and tissues of the human body with as full details as possible both in text and in illustrations. For this edition new sections of the book are contributed by Professor W. Bloom, P. M. DeBary, W. L. Doyle and J. Goss. Important changes included new introductory chapter correlating the submicroscopic, biochemical and enzymatic constancies of cells with their structure and function as determined with the special microscopes; new descriptions of the endocrine glands and the characterizing of several chapters without deletion of essential material. New illustrative material of outstanding quality including four new electron plates, seventeen photomicrographs in color and forty six other new photomicrographs, also adds to the value of the sixth edition. The bibliographical references have been revised to include many of latest date thru 1948.

NONDEZ JOSÉ FERNÁNDEZ AND WILLIAM F WINDLE

Textbook of histology New York Mc Graw Hill Book Company Inc., 1949 456 p. illus. 24 cm. \$6.75 815

Contents. Tissues and methods for their study. Cells, living components of tissues. Epithelium. Blood. Bone marrow and hemopoiesis. Connective tissues. Cartilage, bone, and joints. Muscular tissues. Heart. Blood vessels and lymphatics. Lymphatic tissues and organs. Nervous tissues and the peripheral nervous system. Brain and spinal cord. Morphology of the brain and other organs. Visual and auditory organs. Integument. Mouth and pharynx. Tubular digestive organs. Liver and pancreas. Endocrine organs. Respiratory organs. Excretory organs. Male reproductive organs. Female reproductive organs. Mammary glands. Appendix. Units of measurement used in biology. Bibliography. Visual aids. Index.

Note. This introduction to histology is better than most of the long-established textbooks in the field. Nevertheless, it contains material on not only the major themes but also on the specialized themes of various organs. The 135 illustrations include nearly 100 original and remarkable photomicrographs.

EMBRYOLOGY

HOOKE, DAVENPORT

The prenatal origin of behavior Porter lectures series 18 Lawrence, Kansas University of Kansas Press 1952 143 p. illus. 22 cm. (Physiological and morphological studies on human prenatal development. Publication no. 20) \$2.50. 816

Contents. Fetal activity in laboratory vertebrates. The sequence in human fetal activity. The significance of structural and functional interrelationships in prenatal activity. Index. Acknowledgments. References. List of names. Subject Index.

Note. In the three lectures printed in this book the author, who is Chairman of the Department of Anatomy of the School of Medicine of the University of Pittsburgh, sketches what is known about the nervous system and other activity of embryo and fetus. The first two lectures are devoted chiefly to the responses elicited by definite stimuli such as smoking. In the third lecture the author has covered interrelationships among such organ systems as the circulatory system, nervous system, and endocrine glands. Some descriptions of the research methods by which the information has been obtained have been included. There is a 14-page bibliography.

NATIONAL RESEARCH COUNCIL COMMITTEE ON HUMAN REPRODUCTION

Studies on testis and ovary eggs and sperm. Proceedings of a conference sponsored by the Committee on Human Reproduction, National Research Council, in behalf of the National Committee on Maternal Health, Inc. Edited by Earl T. Engle. Springfield Illinois Charles C Thomas, 1952 237 p. illus. 24 cm. \$7.75 817

Contents. Spermatogenesis in testis of man with clinical or clinical interest. By W. O. Nelson. Cytogenetics of human spermatogenesis. By M. Kihama. The fertilized cell. By W. W. Scott and X. M. Lynch. In vitro fertilization in human oocytes. By J. MacLeod. The metabolic biochemistry of sperm activity. By D. W. Bates. The metabolic regulator in mammalian spermatozoa. By H. A. Lardy. New aspects of the relationship between the metabolism and activity of human spermatozoa. By J. MacLeod. The morphological basis of sperm function. By M. C. Taylor Jr. and others. Alleviation of new stresses. By R. Courter. Investigations into the treatment of the sperm. By A. Westman. A cytological study of sperm in the ovum of the rat and new data on the sperm cycle. By D. W. Dwyer and W. L. Barker. The embryonic nature of the adult ovary. By H. W. Minamide. Self-stimulatory as the means caused by cellular induced chromosomes. Changed. By U. D. Seal. Genetically determined variations in male fertility in the house mouse. By L. C. Dunn. List of members of the Conference.

Note. A collection of original papers based chiefly on investigations made in recent years. Each paper is supplemented by excerpts from the discussion at the conference and, in most instances, by illustrations, tables, and literature references.

PHYSIOLOGY

GENERAL

ALTSCHULE, M D

Physiology in diseases of the heart and lungs. Cambridge, Mass. Harvard University Press, 1950. 368 p. 22 cm. (Harvard University monographs in medicine and public health, editorial committee A. Baird Hastings and others, Num 10) \$5.50 818

Contents: Chronic cardiac decompensation. Acute pulmonary edema—cellular lesions. Acute pericardio-myocardial infarction. Corbion arrhythmias. Pericarditis. Congenital and acquired cardiac defects. Pulmonary thrombosis. Chronic pulmonary emphysema. Bronchial asthma. Mitral valvula. Pericarditis. Pneumonia. Index.

Note: A critical review of published physiologic studies which have bearing on the diseases of the heart and lungs in man. It is organized in short sections and is completely written. Each of the sections is followed by comprehensive bibliography. The book is designed for the information of upper-level medical students in medical schools. However, it is used also by medical practitioners, graduate physiologists, etc., in need of accurate and literature facts. The author is a member of the faculty of Harvard Medical School.

ANNUAL REVIEW OF PHYSIOLOGY Volume 14

Victor E. Hall, editor, Jefferson M. Crisman associate editor, Arthur C. Giese, associate editor Stanford University California Annual Reviews, Inc., and the American Physiological Society 1952 589 p. 23 cm. \$6.00 819

Contents: Prefatory chapter (The organization of science), by R. W. Gerard. Physical properties of potassium, by D. P. Weisbach. Growth, by L. J. Wells. Physiology of the connective tissue, by C. R. Bagge. Physiological effects of heat and cold, by R. S. Balaban. Energy metabolism of beryllium at the cellular level, by R. Stephenson and M. Sorenson. Water metabolism, by J. R. Kellum and R. A. McCance. Respiratory system, by J. L. Whitcomb and J. V. Mahoney Jr. Comparative physiology of invertebrate muscle, by C. A. G. Weisbach. Physiology of the digestive system, by C. M. Whiting. Fundamentals of blood clotting, by J. R. Fyfe and R. W. Coon. Blood gas transport, by E. H. Wood. Pulmonary circulation, by J. R. Pappaschewsky. Heart, by G. Burch. Lymphatic system, by R. L. Wells. Kidney, by A. C. Giese and others. Excitation, conduction and synaptic transmission in the nervous system, by C. McC. Brooks and M. G. F. Frazier. Sensory function of the central nervous system, by M. Hume. Vascular function of the nervous system, by A. Kunitz. Hearing, by R. R. Gerschlager. Pituitary gland system, by J. W. Coon and R. E. Fajana. Thyroid gland, by A. Albert. Reproduction, by C. G. Hartman. Physiology of the skin, by E. M. Fisher and W. C. Lubke, Jr. Indexes.

Note: (700P) The current volume of this standard review contains the papers listed above. Each of the papers, except the first, is accompanied by a summary of the recent literature pertinent to the topic treated in its title and is accompanied by a bibliography of the literature. The papers are arranged in groups physiologists and to scientists in related fields and are a most valuable source of information on the current state of developments in physiology. Since the names of the authors of cited literature are included in the author index the book can be used also as a literature guide. Most of the summaries and the accompanying bibliographies are international in scope.

memory of Leonor Michaelis. New York Academic Press Inc., 1952 538 p. illus. 24 cm. \$8.50 820

Contents: The mechanism of enzymatic oxidation-reductions, by E. R. Osmer. Sarcosine. The identification of enzyme-substrate complexes, by R. Chance. The cytoplasm, its structure and role in metabolism, growth, and differentiation, by J. Rasmussen. Physiology of the cell surface, by D. Mauds. The physiology of cell division, by L. V. Belfrage. Molecular anatomy of the red cell plasma membrane, by A. K. Papet and R. Belfrage. The measurement of cell permeability with particular reference to the erythrocyte, by M. E. Jacobs. The sodium and potassium balance of muscle and nerve, by H. B. Katch. Mechanism and properties of blood-erythrocyte, by H. G. Groot. Chemical mechanism of nerve activity, by D. Macdonald. Transmembrane processes of nerve-muscle junctions, by S. W. Kuffler. On structure and function in nerve. Neurochemical, physical aspects of excitation and conduction, as detected primarily from patch-clamp experiments, by J. M. Tobin. Problems in the comparative physiology of nervous systems, by C. L. Frazier. Biochemical evolution, by G. W. Widd. Thermodynamics and muscle, by A. Szent-Gyorgyi. Studies on the contractile protein systems of muscle, by W. P. H. M. Meersma. On the mechanism of drug action, by G. Levitt. Some metal complexes with proteins and other large molecules, by L. M. Elias. Some considerations of the chemical structure and biological activity of chrysothrips, by H. Kunitz. The oxidative phosphorylation of carbohydrate metabolism, by E. R. Osmer. Index. Author index. Subject index.

Note: Lectures delivered in the Physiology Course of 1950 at the Marine Biological Laboratory, Woods Hole, Massachusetts are collected in this volume. The typical lecture is concise, critical digest of the current knowledge of the topic treated in its title, supplemented by an extensive bibliography. In some instances the results of recent and highly unpublished research are included. The papers are addressed to graduate students concerned with research in biology especially the area of biology mentioned in the title.

BEST, CHARLES HERBERT, AND NORMAN BURLE TAYLOR

The physiological basis of medical practice a text in applied physiology Fifth edition. Baltimore The Williams & Wilkins Company 1950. 1330 p. illus. (part col'd) 26 cm. \$11.00 821

Contents: (abridged) Section I. The blood and lymph. The physiological properties, physical characters and composition of blood. The lymph and three kinds. Transfusions—the blood groups. The spleen—the life of the red cell—the regeneration of blood. The monocytes. The mechanisms regulating the secretion of the body fluids. Section II. The circulation of the blood. The dynamics of the circulation. The arterial blood pressure. The physiology of cardiac muscle. The origin and mode of transmission of the heart beat. The architecture of the heart. Electrocardiography. The output of the heart. Special features of the circulation in different regions. Section III. Respiration. The physical principles governing the respiratory exchange. The transport and delivery of oxygen to the tissues. The carriage of carbon dioxide by the blood. Anemia. Section IV. The excretion of wastes. Urine formation. The structure of the kidney—function of renal function—volume and composition of the urine. The physiological physiology of kidney disease. Section V. Digestion. The salivary glands and the secretion of saliva. Gastric digestion. Digestion in the intestine. The movements of the alimentary canal. Section VI. Metabolism and nutrition. General metabolism. Protein metabolism. Carbohydrate metabolism. The metabolism in starvation (hunger), obesity and malnutrition. The vitamins. Section VII. The excretory glands and endocrine. Section VIII. The nervous system. The physiological properties of nerve. Reflex action. The spinal cord and brain stem (medulla, pons and mid brain). The cerebral cortex. The cerebellum. The autonomic nervous system. Section IX. The special senses. The physiology of vision. The descriptive mechanisms of the eye. The ear. The chemical senses. References. Index.

BAKRON ELIAZAR S GUKMAN editor

Modern trends in physiology and biochemistry Woods Hole lectures dedicated to the

Note: (711) An almost encyclopedic treatment of physiological and biochemical principles and techniques from the standpoint of their application to clinical medicine. It is designed for students and practitioners of medicine rather than for chemists or physiologists, and its primary purpose is to encourage the correlation of clinical practice with the underlying physiological knowledge. In this edition it has again been extensively revised. The number of pages has increased by 160. The revisions are scattered throughout the work wherever advances in knowledge have made them necessary. The number of figures is now 601, all of which about 100 are new.

CANNON, WALTER BRADFORD, AND ARTURO ROSENBLUTH

The supersensitivity of denervated structures: a law of denervation. New York: The Macmillan Company, 1949. 245 p. illus. 21 cm. (Experimental biology: monographs) \$6.50 822

Contents: Part I, Introduction. Historical development of the concept. Supersensitivity—definition and examples. Part II, Supersensitivity in chemical agents: Smooth muscle—sympathetic stimulation—sympathetic inhibition—parasympathetic stimulation and inhibition. Malpighian corpuscles. The heart. Smooth muscle. Sympathetic ganglia. Spinal accessory. Coordinating centers. Part III, Supersensitivity to nerve impulses: Smooth muscle, Malpighian corpuscles. Adrenal medulla. Sympathetic ganglia. Spinal accessory. Spinal accessory. Part IV, Presumably related phenomena. The spontaneous activity of denervated structures. The crossed phrenic phrenic. The deficiency of the discharge of the cut phrenic. Part V, Theories and implications. A law of denervation. Theories of sensitization—the denervation mechanism. Some implications of the law of denervation. References. Author index. Subject index.

Note: A monograph on the physiological phenomenon of increased sensitivity to adrenaline and certain other chemicals that is exhibited by muscles and glands which have been denervated. Both the experimental results obtained by the authors in their investigations and the results of other research workers have been incorporated. The different types of supersensitivity are described, and the clinical and pharmacological implications of viscous chemical control are pointed out. The book is of fundamental interest in several areas of experimental biology and medicine. The list of references is twenty pages in length.

FULTON, JOHN FARQUHAR

Physiology of the nervous system. Third edition revised. New York: Oxford University Press, 1949. 667 p. illus. 22 cm. \$10.00 823

Contents: (abridged) The receptors. Dorsal spinal nerve roots and the dermatomes. The motor root. Synapses and elementary reflexes. Central inhibition. The spinal cord—flexion reflex—extension reflex—intersegmental reflexes—spinal pools. The medulla oblongata—dermatome rigidity. The medulla oblongata and autonomic—posterior horns. The pons and midbrain—optic reflexes. Autonomic nervous system. The hypothalamus and the autonomic nervous system. The thalamus. General cortex—subcortical, subcortical connections, motor projections—the efference system—the reciprocal bases and visual system—the temporal lobe—the parietal lobe and somatic sensation—the motor areas and pyramidal system—corticospinal and intracortical projections—the corticospinal and corticobulbar regions—autonomic representation in precentral motor cortex. The extrapyramidal motor system—basal ganglia and reticular formation. The cerebellum. The nervous system as a whole—the conditioned reflex. Bibliography and author index. Subject index.

Note: (1893) A standard, well-known textbook in which neurophysiology is presented from the experimental standpoint. It is designed primarily for medical students with interests in clinical medicine. The third edition is about 50 pages longer than the second edition published in 1945. There are numerous changes and the chapter on the subcortical and cerebral regions of the cerebral cortex has been completely rewritten. The extensive bibliography includes both papers cited in the text and other important contributions published since 1945 and is supplementary to the bibliography in the author's *Master's contributions* 1976.

GRAY, JOHN STEPHEN

Pulmonary ventilation and its physiological regulation. Springfield, Illinois: Charles C. Thomas, 1950. 81 p. illus. 22 cm. (American

lecture series. Publication no. 63. A monograph in American lectures in physiology edited by Robert F. Pitts) \$2.50 824

Contents: The control of the respiratory cycle. Theories of the control of ventilation. The receptor system. Interrelationships between chemical stimuli. Respiratory responses to chemical stimuli. The integrated regulation of ventilation. Denervation and sensory status. Sensitivity and CO₂ adaptation. References.

Note: This short book is a description of the complex mechanism which regulates the volume of air breathed by the lungs and survey of the current state of the knowledge of how this system functions. The various pertinent theories are critically evaluated and put in the basic physiological knowledge as pointed out. The book is primarily of interest to physiologists, but it has applications also in such fields as military and naval medicine. There is bibliography of 45 citations.

HAMILTON, WILLIAM FERGUSON

Textbook of human physiology. With 139 illustrations. Second edition. Philadelphia: F. A. Davis Company, 1949. 625 p. illus. 24 cm. \$7.00 825

Contents: (abridged) The process of excitation. The organization of reflex pathways. Afferent pathways in man. The efferent pathways. General functions of the central nervous system. General functions of the receptors. Consciousness and pain. The functions of taste and smell. Memory and intelligence. Hearing. Radiation and vision. Hunger, thirst, libido, and the conscious interpretation of sensation. The regulation of the lungs. Respiratory functions of the blood. Abnormalities in respiration. The blood. The pumping action of the heart. The action currents of the heart. Arterial pressure pulse. Measurement and regulation of the circulation rate. The regulation of the mean blood pressure. Compensatory factors of the circulation. Congenital heart disease. The digestive movements. Digestive absorption and secretion. The fluids of the body. The functions of the kidney. Metabolism. The endocrine system. Index.

Note: This book is the result of a planned effort on the part of the author to produce a shorter and simpler treatment of the present physiological processes than is available in the traditional comprehensive and detailed type of textbook. The typical chapter is an outline in which only the main facts are stated, but the discussion is supplemented by selected lists of references to complete texts of books. Illustrations are fewer than in the traditional large type of text and there are no colored ones. The book is well adapted to use in introductory courses where a simple text is desired and to extracurricular reading by students in other fields than physiology who find themselves in need of a survey of physiology. The author is Professor of Physiology in the School of Medicine of the University of Georgia.

HOSKINS, ROY GRAHAM

Endocrinology: the glands and their functions. Revised & enlarged edition. New York: W. W. Norton & Company Inc., 1950. 402 p. illus. 22 cm. \$5.50 826

Contents: Hormones—the chemical regulators. The pituitary gland. The thyroid gland. The parathyroid glands. The hypophysis or pituitary gland. The male sex glands—the testes. The female sex glands—the ovaries. The placenta as an endocrine organ. The pineal gland. The thymus gland. Endocrine aspects of reproductive functions. Regulation of the digestive functions. Insulin and diabetes. Some general aspects of endocrinology. Endocrinology of the future. The endocrine literature index.

Note: (1874) An authoritative, semi-technical presentation designed for such readers as physiologists, endocrinologists, and laymen who have some familiarity with scientific terminology. The first edition appeared in 1945. In this edition the text has been revised at various points to incorporate advances since that year and additional literature citations have been added to the reference lists and general bibliography.

JONES, HAROLD ELLIS

Motor performance and growth: a developmental study of static dynamometric strength. Berkeley and Los Angeles: University of California Press, 1949. 181 p. illus. 24 cm. \$3.00 827

Contents: The progress of measurement. Factors related to strength. Growth in strength. Strength and physiological training. The influence of season on growth. Some incidental findings. Individual case studies. Implications and conclusions. Bibliography.

Note: The results of a seven year study of the development of muscular strength in adolescent boys and girls of school age are presented in this work. The number of subjects was 113 (93 boys and 20 girls) at the beginning of the study and it decreased to 139 six and one-half years later when the investigation was concluded. Measurements of body growth in the same group were made coincidentally and are co-related with the development of strength. Observations were made and are analyzed on relationships among growth, strength, and personality characteristics.

LEE, DOUGLAS HARRY KEDGWIN

The physiology of tissues and organs.
Springfield Illinois Charles C Thomas, 1950
159 p. illus. 23 cm. \$4.00. 828

Contents (abridged): Part I, Physiology of tissues. Chemical factors in living processes. Physical factors in living processes. Cell multiplication and differentiation. Nervous tissue. Muscular tissue. Epithelial tissue. Connective tissue, cartilage and bone. Blood. Endothelial tissue and the rheumatic reaction. Part II, Physiology of organs: Atmosphere organs. Transducer organs. Storage organs. Biochemical effector organs. Chemical effector organs. Excretory organs. Organs of special sensation. Organs of reproduction. Embryos, considered as an organ. Conclusion.

Note: Essentially an outline of the physiological functions of specific tissues and these systems, but only are the chapters short but the style is very concise, lucid, and the fundamentals of physiology are well presented. The book is suitable for use in textbooks or reference for consultation and also as source of quick reference in both personal and institutional libraries. The first edition was published in Australia and was designed for use by students in the University of Queensland. The author is now member of the faculty of the Johns Hopkins University.

MILBANK MEMORIAL FUND

The biology of mental health and disease.
The twenty seventh annual conference of the
Milbank Memorial Fund. With 108 contributors.
Foreword by Stanley Cobb New York
Paul B Hoeber Inc. Medical Books Department
of Harper & Brothers, 1952 654 p. illus.
24 cm. \$10.00. 829

Contents: Embryonic development of the cerebral cortex, by J. Leakey Osoff and E. E. Crago. Chemical constituents of brain development and its maturity, by J. Fitchett and W. M. Sperry. Cerebral circulation and metabolism, by R. R. Kety and H. G. Woff. Blood-brain barrier, by R. D. Telford and others. Brain tissue composition and glycolysis, by A. C. Elliott and J. R. Koster. Oxidation and reduction in brain tissue, by E. G. Ball and J. R. Koster. Carbohydrate metabolism in brain tissue, by G. Mayrhold and J. Ochoa. Nitrogen metabolism in the brain, by H. R. Wadich and D. Rittenberg. Lipid metabolism of the brain, by W. M. Sperry. Ions and metabolism of the brain, by J. F. Mowry. Electrical metabolism of action in neurons, by D. P. Lloyd and others. Role of electrolyte compounds in neural activity, by J. L. Lilienfeldt, J. and W. S. McCulloch. Physiology development of the cortex of the brain and its relationship to its morphology, chemical constitution, and sensory systems, by L. E. Fennell and others. Patterns of localization in sensory and motor areas of the cerebral cortex, by C. M. Woodbury and others. Electrical activity and metabolism of cerebral integration, by R. H. Jasper and M. A. R. Mount. Functional organization of the brain in relation to sensation and behavior, by R. F. Harlow and others. Conductive indicators in personality and behavior, by R. A. Chapman and others. Genetics and neural mental differences, by R. R. Gelles and J. V. Neel. Genetic aspects of psychosis, by J. J. Kalmus and others. Mental effects arising from organic disease, by W. L. Byers and T. L. Linn. Alcohol's effect on structure of the brain, by W. F. Wurtz. Amnesia—its effects on the physiology and biochemistry of the brain and on behavior, by R. A. McFarland and others. Effects of drugs on metabolism and physiologic activity of brain, by J. H. Quastel and others. Brain's implications of metabolism, by T. H. Ingalls and C. A. Renda. Mental deficiency and abnormal metabolism, by G. A. Jervis and R. B. Wadich. Metabolic and physiologic disturbances in the psychosis, by H. Hargrave and others. Enzymatic changes in mental disease, by A. Pope and W. M. Ashley. Histopathology of schizophrenia and other psychoses of unknown etiology, by A. Wolf and others. Experimental induction of psychoses by conditioned reflex with stress, by H. S. Laddell and W. H. Gantt. Experimental

induction of psychoses by starvation, by A. Keys and others. Experimental induction of psychoses through restriction of intake of cholesterol, by R. M. Wadler. Experimental induction of psychosis, by F. H. Beck and H. C. Solomon. Effect of shock therapies on the brain, by H. E. Himelrich and others. Use of carbon dioxide in electrostatic states, by W. F. Lomas and others. Nucleic therapy in psychotic states, by H. Lohmann and L. J. Thompson. Effect of carbonic anhydrase on experimental psychoses, by H. S. Laddell and H. S. Laddell. Results from the use of ACTH and cortisone in psychosis, by R. W. Glick and others. A final glance at the psychoses, by R. W. Glick.

Note: A notable volume in which has been collected the original papers presented at the conferences named in the title. These papers represent planned symposium on the contemporary knowledge of the biological aspects of brain function and dysfunction. The contributors were purposely drawn from all related fields of science. To quote the Foreword "The list of participants included anatomists, physiologists, geneticists, chemists, neurophysiologists, neurologists, neurosurgeons, psychologists and psychiatrists. They came from almost all states of the United States and three foreign countries. As printed in the book, the papers are supplemented by illustrations, literature references, and transcripts of discussion."

MOOREHEADS, W F H. M.

Muscular contraction a topic in molecular
physiology New York Interscience Publishers,
Inc. 1950. 191 p. illus. 24 cm. (Monographs in the physiological sciences Editorial
board Maurice B Visscher and others) \$5.00
830

Contents: Introduction. An outline of the mechanism of muscle. A quantitative picture of muscle metabolism. The sequence of events in muscle activity. The muscle proteins. Myofibrils, actin and myosin. Myofibrils and electromyography. The structure of the muscle fibril—the myofibril thread. Contractile threads and fibrin. Crystalline myofibrils. Actin—the second structure protein. Actomyosin—the myofibril actin complex. Molecular mass and shape of muscle proteins. Velocity and displacement of flow function between ATP and myosin. Problems and interpretations. Bibliography index.

Note: A condensed review of present-day knowledge regarding the mechanical mechanisms of muscular contraction. It is based on survey of the literature of the subject and draws heavily on the writings of Huxley, Drachman, Myerfeldt, Stein-Grossel, and other workers in the field. Throughout the book emphasis is on experimental methods and discussion rather than on theory. The text is based on the bibliography consisting of 354 references.

PROSSER, CLIFFORD LADD editor

Comparative animal physiology By David
W Bishop Frank A. Brown Jr., Theodore L.
Jahn C Ladd Prosser and Verner J Wulff.
Philadelphia W B Saunders Company
1950 888 p. illus. 24 cm. \$13.00. 831

Contents: Introduction. Water balance and fluid specificity. Nutrition Feeding and digestion. Metabolic excretion. Respiration and metabolism. Respiratory functions of body fluids. Temperature metabolism aspects and perception. Photosynthesis. Chemoreception. Neuroreception. Mechanoreception and electroreception. Circulation of body fluids. Blood and electric organs. Anomalous movement. Cells. Tracheae and hemolymph. Biochemistry. Chemoreception and color change. Endocrine mechanisms. Nervous systems. Index.

Note: This book is both textbook and manual of reference. When used as textbook it is suitable for upper-level undergraduate college students and first-year graduate students. Its emphasis on references both derives from its relatively full discussion of specific topics and its lengthy bibliography. The references are enhanced by condensed cross-references from statements in the text to the bibliography. Although the material is arranged by function and organ systems, the index includes the names of animals, for example, *Xenopus*. Thus the book can be used as guide to the most facts and the literature pertinent to physiological functions in specific animals.

REYNOLDS SAMUEL ROBERT MEANS

Physiology of the uterus. Second edition
revised and enlarged. New York Paul B.
Hoeber Inc., 1949 611 p. illus. 26 cm.
\$12.50. 832

Contents (abridged) Part I, Patterns and functions of uterine motility: Morphology. Uteral and uterine movements during the estrous cycle. Human topography—menstrual uterine. Part II, Hormonal control of the myometrium. Activation of the myometrium. Mechanisms of gestation. Steroid hormones during pregnancy. Hormones in the control of parturition. Physical factors in uterine contractility. Physiologic basis of myometrial therapy. Part III, Uterine growth. Growth of the nonpregnant uterus. Growth of the distended uterus. Factors in abnormal uterine growth. Patterns of uterine growth during pregnancy. Structural changes and uterine enlargement. Myometrial forces in relation to uterine growth and parturition. Part IV, Circulation in the uterus: Vascularity of the uterus. Circulation of blood in the nonpregnant uterus. Lymphatic vessels of the uterus. Hemodynamic vascular effects of steroid hormones. Menstruation. Uterine vascular adaptations to pregnancy. The fetal circulation and its control. Part V, Metabolism in the uterus. Part VI, Innervation of the uterus. Part VII, Utero-placental relationships: Effects of hypoxemia. Endocrine, vascular, and central nervous system relationships. Bibliography. Part VIII, The onset of labor. Bibliography. Author index. Subject index.

Note. A well organized and critical survey of the accumulated knowledge of the physiology of the uterus. Although there is some emphasis on the human uterus, pertinent knowledge has been gathered from all fields of physiology and especially from animal experimentation. Each of the sections is essentially a digest of literature with numbered references from statements in the text to the bibliography. The total number of references in the bibliography is approximately 1200. The number of cited papers which describe experiments and observations on such animals as the rat, the rabbit, and the guinea pig exceeds by considerable margin the number of papers listed on human beings. The first edition appeared in 1939. For this edition the work was reorganized and much new material added. Most of the illustrations in this edition are new.

RIEDMAN, SARAH REGAL

The physiology of work and play: a text book in muscular activity. Original illustrations by Ida Scheff. New York: The Dryden Press 1950. 584 p. illus. 21 cm. (The Dryden Press publications in the biological sciences general editor L. V. Hellbrunn) \$5.50

833

Contents (abridged) Part I, The physiology of motion: Orientation in excited muscles. The structural basis of voluntary motion. Intrinsic properties of muscle. The chemical basis of motion. Chemical dynamics in muscular work. Muscles as work machines. Fatigue. Coordination of motion and of adjustments to exertion. Part II, Organic adjustments to the needs of motion: Circulatory adjustments in motion. Cardiac responses to motion. The heart as a work organ. Respiration. Pulmonary ventilation. Transport of oxygen and carbon dioxide. Respiratory regulation. Part III, Adaptations to special conditions of work: Work under limiting environmental conditions. Work under extremes of temperature and humidity. Work under conditions of modern industry. Part IV, The adaptive capacity of the organism: Body changes during regular adaptation to strenuous. Coordination and recoordination. Physical fitness. Effects of mental and emotional activity. Index.

Note. Although this book is intended as an introduction especially for the instruction of such students as physical education majors, it contains rather detailed treatment. Such topics as the buffer systems of the blood and blood changes during muscular activity are discussed in chemical terms. Furthermore, each chapter is supplemented by bibliography of pertinent technical literature. The book contains enough detailed technical information to make it useful for reference or reading by scientifically trained persons as well as survey of the physiology of physical activity. The author is a member of the faculty of Brooklyn College.

ROSENBLUTH ARTURO

The transmission of nerve impulses at neuroeffector junctions and peripheral synapses. New York: Published jointly by the Technology Press of Massachusetts Institute of Technology and John Wiley and Sons, Inc., 1950. 325 p. illus. 24 cm. \$6.00

834

Contents. Introduction. Part I, Transmission at autonomic neuroeffector junctions. Adrenergic and cholinergic nerves. The liberation of acetylcholine by stimulation of some autonomic postganglionic fibers. The liberation of norepinephrine by stimulation of autonomic postganglionic fibers. The theory of two synapses, excitatory and

inhibitory. The distribution of cholinergic and adrenergic nerves in the organism. The generalized effects of the chemical mediators liberated in physiological conditions. The electric responses of smooth muscle. The mode of action of the chemical mediators. Some physiological properties of smooth muscle. Theories of transmission at autonomic neuroeffector systems. Part II, Transmission at peripheral synapses. The stages of neuromuscular and of ganglionic synaptic transmission. The liberation of acetylcholine by presynaptic nerve impulses. The action of acetylcholine on skeletal muscle and on ganglion cells. The action of norepinephrine, procaine, and diisopropyl fluorophosphate. Carriers and some decarboxylating agents. Weakness inhibitors. The failure of synaptic transmission in the course of Wallerian degeneration of the peripheral nerve. The phenomena of potentiation and allied phenomena. Post-tetanic effect. The action of potassium ions. The electrical excitability of skeletal muscle. The electric responses of skeletal muscle. The electric responses of autonomic ganglia. A comparison of synaptic transmission at autonomic ganglia and at somatic neuromuscular junctions. The electrical theory of synaptic transmission. The chemical theory of synaptic transmission by acetylcholine. Alternative theories of synaptic transmission. References. Author index. Subject index.

Note. (1952) This well-documented publication for neurophysiologists presents in systematic form an explanation of chemical transmission at the junctions of motor nerves with striated muscle and at the synapses in autonomic ganglia. The properties are discussed of the junctions between excitable effector elements; one of the central problems considered is precisely whether the processes that take place at these junctions differ qualitatively from those that occur in the course of the propagation of nerve impulses. The bibliography runs to 720 references. The work belongs up to date but does not entirely supersede *Synaptic Neurotransmitter Systems* by Walker B. Cannon and Arturo Rosenbluth, New York, 1947.

SODEMAN WILLIAM A., editor

Pathologic physiology: mechanisms of disease. Philadelphia: W. B. Saunders Company, 1950. 808 p. illus. 25 cm. \$11.50

835

Contents. Part I, Circulatory system: Hemodynamics—the blood vessels, by W. A. Sodeman. Dynamics and chemistry of heart sounds—coronary reserve—and the cardiac cycle, by J. T. Bickel. The electrocardiogram, by F. D. Johnston. Cardiac output—hypertrophy and distention—valvular diseases—congestive effects—pericardial diseases—arteriosclerotic lesions, by E. Hill. Coronary failure and function tests, by J. R. La Dore. Part II, Respiratory system: Pulmonary ventilation and respiration—basis of respiratory function, by J. H. Sweeney. Protective mechanisms of the lungs—pulmonary diseases, by H. L. Alexander. Part III, Digestive system: The esophagus, by W. L. Palmer and J. B. Krumm. The stomach, by W. L. Palmer and J. B. Krumm. The small intestine, by L. Schiff. The large intestine, by F. J. Longaker. The gallbladder and pancreas, by R. E. Glass. Part IV, Blood and spinal fluid: Chemistry of the blood, by S. R. Cohn. The spleen and reticuloendothelial system, by C. A. Deming. Part V, Urinary system: The kidney, by A. C. Corcos and J. B. Papp. Part VI, Endocrine glands—water balance—nutrition. Endocrine glands, by E. C. Kellum. Water balance, by R. L. Palmer and R. F. Krumm. Nutrition, by W. A. Sodeman. Part VII, Locomotor system: The joints, by R. E. Glass. Part VIII, Infectious diseases—allergy: Factors affecting immunity, by G. T. Harrell. Effects of infection, by G. T. Harrell. Recovery from infection, by G. T. Harrell, by G. T. Harrell, by R. of the course of an infection, by G. T. Harrell, by G. T. Harrell. A. Cohn and W. B. Krumm. Part IX, Physical, toxic and chemical: Physical and toxic agents, by W. B. Krumm. Chemical agents and poisons, by J. H. Fowler. Index.

Note. A useful compendium of chapters written specifically for this work by twenty-five authors, the majority of whom are members of the faculty of medical colleges in the United States of America. The purpose of the work is to interpret the clinical manifestations of diseases to terms of dysfunction of basic physiological processes. In most of the chapters the first few pages are devoted to descriptions of the pertinent physiological processes, these are followed by compact discussions of diseases. Extensive lists of references accompany most of the chapters. There are 144 figures.

WIGGERS CARL JOHN

Physiology in health and disease. Fifth edition, thoroughly revised. Illustrated with 279 engravings. Philadelphia: Lea & Febiger, 1949. 1242 p. illus. 24 cm. \$10.00.

836

Contents (abridged) Section I, Muscular contraction and associated phenomena: Physiology of skeletal muscle. Functions of smooth muscle. Myoelectricity. Electrotic phenomena. Section II, The physiology of the peripheral and central nervous systems. Physiology of nerves. Physiological purposes of reflex actions and

their disturbances in disease. Control of voluntary and involuntary movements. Sensible sensibilities and their disturbances. Special sensibilities. Associative functions of the cerebral cortex. The physiological basis for psychosomatic reactions. Section ix, The blood. Section iv, Respiratory. Respiratory movements and mechanisms of lung inflation. Interchange of gases in the lungs and tissues and their transportation by the blood. Chemical disturbances of respiration. Arterial physiology. Section v, Heart and circulation. Excitation of the myocardium heart and its nervous control. Electrocardiography. Hemodynamic principles. Nervous and chemical control of blood pressure. Dynamics of the heart beat. Hypertension. The pulmonary circulation. Coronary circulation. Dynamics of valvular action. Hemorrhages and shock. Section i, Physiology of the alimentary tract. Section vi, Metabolism and nutrition. Digestion, absorption, and assimilation. The metabolic and energy balance of the body. Hyperthermia and hypothermia. Vitamins in nutrition. Section vii, Excretion and body fluids. Section ix, Endocrine system. Hormonal control of functions by hormones. Primary hormones and disorders. Diabetes, insulin, and other hormones. Hormones of the adrenal medulla and cortex. The thyroid gland and its hormones. Sexual functions and their hormonal control. Physiology of pregnancy and lactation. Index.

Note: (1414) A standard textbook of the Turkish type. Its special purpose is to correlate physiology and chemical medicine for medical students, clinicians, and investigators in both medicine and physiology. A wide range of information is presented rather concisely with citations of fuller discussions in published books and papers. There is some emphasis on physiological experiments which demonstrate normal reactions. This edition represents an extensive revision with much of the text rewritten, 60 new illustrations, and approximately 1000 new literature references.

WINSLOW, CHARLES-EDWARD AMORY AND L. P. HERRINGTON

Temperature and human life. Princeton, New Jersey: Princeton University Press, 1949. 272 p. illus. 23 cm. \$3.50. 837

Contents: Production of heat in the life process. Avenues of heat loss from the body. The significance of the human body to the animal condition. The thermoregulatory influence of climate. The influence of air conditioning. Methods of air conditioning. The influence of climate and season upon health. Glossary. References. Index.

Note: An inclusive presentation of current knowledge pertaining to the effects of temperature and related environmental conditions on life processes in human beings. Although it is based on an extensive literature survey and is written mainly from the physiological viewpoint, it is easy to read. This quality makes it a suitable book for such readers as medical practitioners, heating and ventilating engineers, and persons concerned with the design of sanitary clothing. Students and physicians in need of reliable, well-documented survey of the subject will also find it useful.

YOUNG, WILLIAM BARTON

Basic medical physiology. Chicago: The Year Book Publishers Inc. 1952. 436 p. illus. 24 cm. \$7.00. 838

Contents: (abridged) Section i, Excitation, conduction and response; Stimulus and response of nerve and muscle. Transmission of excitation at the skeletal neuromuscular junction. Transmission of neural influences to visceral effector cells. Receptors, reflexes and conduction and reflex action. Section ii, Circulation. General principles of the circulatory system. Physiology of the heart. Control of color of arterioles. Arterial blood pressure. Cardiac output. Venous pressure and venous pulse. Blood. Section iii, Respiration: Uptake and transport of respiratory gases by the blood. The control of breathing. Section iv, Digestion. Mechanism of the digestive tract. Secretion and actions of digestive juices. Section v, Nutrition and intermediary metabolism. Section vi, The endocrine system. Section vii, Tissues. Section viii, Kidney and urinary tract. Section ix, Nervous system and senses. The afferent system. The motor system. Autonomic system and kypothalamus. Physiological optics. Neurophysiology of the eye. Audition, taste and olfaction. The cerebral cortex. Index.

Note: A comparatively short introduction written for use in premedical and medical college courses in the words of the author. "Greatly has been achieved largely by increasing knowledge of the subjects which are prerequisites for the study of human physiology by outlining discussion of controversial questions and by presenting the current state of information without giving detailed evidence and without discussing the historical background. Each of the sections includes selected bibliography for the student. Of those readers who wish to pursue particular topics further. The author is Professor of Physiology at the University of Wisconsin.

YOUNG, WILLIAM BARTON

Nervous and neurohumoral regulation of intestinal motility. New York: Interscience Publishers, Inc. 1949. 129 p. illus. 24 cm. (Monographs in the physiological sciences. Editorial board Maurice B. Visscher and others.) \$4.75. 839

Contents: Introduction. Recording of intestinal motility and the interpretation of records. Extrinsic innervation of the intestine and methods of observation. Facilitation of the intestinal musculature by extrinsic innervation. Documented intestinal segment as an indicator for stimulus and response. Summary. References.

Note: A review with literature references of the accumulated knowledge pertaining to the regulation of the motility of the small intestine by the extrinsic nerves and also by extrinsic and related compounds. Particular attention is given to the various experiments on which this knowledge is based. The author himself has carried on experimental studies of the subject since 1933 and in this book has correlated his results with the findings of other investigators.

NUTRITION AND FOOD

ALBANESE, ANTHONY AUGUST, editor

Protein and amino acid requirements of mammals. New York: Academic Press Inc., 1950. 155 p. illus. 24 cm. \$4.00. 840

Contents: Some aspects and age differences in amino acid requirements, by H. H. Mitchell. Methods of measuring the nutritive value of protein hydrolysates and amino acid mixtures—the rat replication method, by D. V. Frost. The laboratory synthesis of amino acid mixtures and protein hydrolysates, by E. H. Rhee and C. C. Packer. Dietary proteins and synthesis of tissue proteins, by R. F. Chew. The protein and amino acid requirements of man, by A. A. Albansen. Index.

Note: The five papers in this volume present the current state of the knowledge of the nutritional requirements of protein and amino acid of mammals. In addition to one which is devoted entirely to the requirements of man, there is also some information on much in the other papers. Each paper is thoroughly literature digest, supplemented by substantial list of references. The book is addressed to graduate scientists, especially biochemists, nutritionists, and practitioners of medicine who are not actively engaged in protein and amino acid research but require current knowledge of the progress in the field.

AMERICAN MEDICAL ASSOCIATION COUNCIL ON FOODS AND NUTRITION

Handbook of nutrition. A symposium prepared under the auspices of the Council on Foods and Nutrition of the American Medical Association. Second edition. Philadelphia: The Blakiston Company 1951. 717 p. illus. 22 cm. \$4.50. 841

Contents: Part i, Individual nutritional problems in nutrition, by H. B. Lewis. Part ii, Nutrition, by H. C. Eckstein. Carbohydrate metabolism, by D. Stetten, Jr. Human requirements of calcium, phosphorus and magnesium, by G. Steen. Iron and copper, by W. J. Darby. Iodine in nutrition, by G. M. Castle and M. R. Farquhar. Zinc and other trace elements in nutrition, by F. J. McClure. The vitamin-B complex, by C. A. Krehbiel. Vitamin C, by C. G. King. Vitamin D, by F. C. Jones. Fat-soluble vitamins A, E, and K, by H. B. Lewis. Part iii, Nutritional needs: Nutritional dietary assessment, by G. M. Castle and H. C. Eckstein. Energy requirements of adults, by A. Keys. Feeding of healthy infants and children, by P. C. Jones. Nutritional requirements during pregnancy and lactation, by H. B. Lewis and H. C. Eckstein. Nutritional problems of pediatric medicine, by E. J. Riegels. Nutritional needs in illness and disease, by G. V. Mann and F. J. Stare. Part iv, Nutritional deficiencies: Iodine deficiency and dietary relationships in nutrition, by C. A. Krehbiel and W. A. Krehl. Calcium undernutrition and starvation, with notes on protein deficiency, by A. Keys. Fluid therapy, by D. C. Darby and E. L. Frost. Deficiency of the fat-soluble vitamins, by J. B. Younts. Deficiency of the water-soluble vitamins, by J. B. Younts. Mineral deficiencies, by J. B. Younts. Part v, Food and its nutritional qualities: Adequacy of American diets, by E. F. Fildes and H. E. Krehbiel. Foods of plant origin, by L. A. Meyers and W. L. Nelson. Foods of animal origin, by F. E. Howe.

Food for emergencies, by R. M. Wilder and T. E. Keys. Improving the quality of cheap staple foods, by G. R. Corvill, *Index*.

Notes: (1143) Rather than a reference book of tabulated data as the title might suggest, this work is a collection of original papers each of which presents a survey of the current knowledge of the particular aspect of nutrition named in its title. Extensive literature references are included for most of the papers. The book is designed for the information of medical practitioners and public health personnel as well as for the graduate student. The index is exceptionally full. The first edition appeared in 1941. This edition represents rather extensive rewriting in order to incorporate the great advances in the knowledge of nutritional requirements made during World War II and subsequently.

FANNING, ROBERT JOSEPH, compiler

Pacific Islands nutrition bibliography. Compiled and annotated by Robert Joseph Fanning. Honolulu, Hawaii: University of Hawaii Press, 1951. 70 p. 22 cm. Paper \$1.00. 842

Contents: Bibliography. Subject index. Area index.

Notes: A comprehensive bibliography of publications relating to chemical composition of foods, dietary requirements, diseases of groups, nutritional status and dental conditions of groups, studies of sensory metabolism, physical standards (heights and weights), descriptions of foods, methods of preparing foods, and extent of use of foods. The annotations are short but well written. The bibliography covers all publications issued through June, 1950. The geographical scope is Caroline Islands, Hawaiian Islands, Marianne Islands, Marshall Islands and Samoa Islands.

GERARD RALPH W. editor

Food for life. By Ralph W. Gerard, Richard J. Block, Norman Jolliffe, Clive M. McCay, Sedgwick E. Smith, and Samuel Soskin. Chicago: The University of Chicago Press, 1952. 306 p. illus. 22 cm. \$4.75. 843

Contents: The basic questions of nutrition. The nutritive materials in food. Preparation—from search to cell. Processing—by organs and cells. Enzymes—the digestive agents. The regulation of cell metabolism. The passage of energy and growth. The foods of animals and man. The improvement of human nutrition. *Index.*

Notes: An authoritative discussion of nutrition and foods written for lay readers. The style is lively and the book is illustrated with graphic diagrams which are easy to comprehend. However, it is not so extremely simplified presentation. Technical terms, even chemical formulas, are used rather freely. Research methods and noted experiments are described. The main theme is understanding of the body's processes and requirements so that food can be chosen intelligently.

KEYS ANCEL AND OTHERS

The biology of human starvation. By Ancel Keys, Josef Brožek, Austin Henschel, Olaf Mickelsen, Henry Longstreet Taylor. With the assistance of Ernst Simonson, Angie Sturgeon Skinner and Samuel M. Wells. Minneapolis: The University of Minnesota Press, 1950. 2 v. illus. 27 cm. \$24.00. 844

Contents: (abridged) Volume I: Background: The history of starvation. The review of evidence and information. The Carnegie Nutrition Laboratory experiment. General features of the Minnesota experiment. Morphology: Body weight, physical appearance and external dimensions. Morphology of the heart and blood vessels. Histology of the endocrine glands: Bones and teeth. Skin and hair. Blood morphology including bone marrow. Biochemistry: Basal metabolism. Total energy exchanges and nitrogen balance. Vitamins and vitamin metabolism. Lipid metabolism. Mineral metabolism. Carbohydrate metabolism. Physiology: The gastrointestinal system. Respiration. Circulation and cardiac function. Feeding and the cardiovascular response to posture. The electrocardiogram. Renal function. Special senses. Musculoskeletal functions and motor performance. The capacity for work. Sexual function. Volume II: Psychology: Psychological problems in starvation. Behavior and complaints in natural starvation. Behavior and complaints in experimental starvation and rehabilitation. Intuitive functions. Personality. Special problems. The sleep problem. Anorexia nervosa and pituitary changes. Growth and development. Infectious diseases and undernutrition. Tuberculosis. Diabetes mellitus and undernutrition. Cancer

and other neoplasms. Effects for rehabilitation, with special reference to the Minnesota experiment. Appendices. References. *Index.*

Notes: A detailed technical report, based on an extended experimental investigation of starvation in which 32 young men served voluntarily as subjects. In addition to the data derived from this original investigation, related data from the published literature have been incorporated. The work is a major contribution to the scientific knowledge of the subject and is of interest to graduate workers in such fields as biochemistry, medical research, and nutritional research as well as to physiology and psychology.

LEONG, PANG CHONG, compiler

Nutrition bibliography of Malaya. Compiled and annotated by P. C. Leong. Honolulu, Hawaii: University of Hawaii Press, 1952. 23 p. 22 cm. Paper \$0.65. 845

Notes: A bibliography of published writings of all types through June 30, 1951. The term "nutrition" has been interpreted liberally to include all literature bearing on the subject, including compilations of data on heights and weights of children.

MACY Icie GERTRUDE, AND OTHERS

The composition of milks: a compilation of the comparative composition and properties of human cow and goat milk colostrum, and transitional milk. Prepared by Icie G. Macy, Harriet Kelley, and Ralph Sloan for the Food and Nutrition Board, with the consultation of the Committee on Maternal and Child Feeding. Icie Macy Hoobler, chairman. Washington: D. C. Published by the National Research Council, National Academy of Sciences, 1950. 64 p. 24 cm. (National Research Council. Bulletin number 119. January 1950) Free. 846

Notes: This work consists chiefly of five tables in which detailed data on the 41 milks named in the sub-titles are assembled. Data are supplied not only on the main constituents, but also on trace elements such as lead, lithium, etc., when such information was available. Literature references are included.

MACY Icie GERTRUDE

Nutrition and chemical growth in childhood. Volume III: Calculated data. With a foreword by Helen A. Hunscher. Springfield, Illinois: Charles C. Thomas, 1951. 217 p. 24 cm. \$8.00. 847

Contents: (abridged) Introduction. Data calculated for normal children from the original data obtained by the Research Laboratory of the Children's Fund of Michigan. Fractions: composition and energy values of diet. Carbohydrates. Fat. Minerals. Phosphorus. Chlorine. Sodium. Negative minerals. Calcium. Magnesium. Sodium. Potassium. Positive minerals. Ratios of positive or negative minerals. Supplement. Average values calculated from the original data obtained by the Department of Home Economics, Agricultural Experiment Station, College of Agriculture, University of Illinois. Appendix: Interpretation of measurements. Assessment of ages of bones in the hand and wrist. *Index:* Subjects and names. Volume I, II, and III.

Notes: (1151a, 720*) The concluding volume of a critical, chemical, psychological, anthropometric, and sociological study of diet-control led group of normal children. Each child in the group was repeatedly measured and tested over a period of six or seven years in order to record the nutritional and physiological changes due to growth. The volume at hand contains over 1300 tables of data arranged chiefly by subject substance. It contains also information on skeletal maturation, and additional interpretation of the measurements which were published in Volume II of the work.

MILBANK MEMORIAL FUND

Nutrition in relation to health and disease. Papers presented at a round table at the 1949

annual conference of the Milbank Memorial Fund, November 16-17 1949 New York Milbank Memorial Fund, 1950 249 p. illus. (part col'd) 23 cm. Paper \$1.00. 848

Contents (abridged) Foreword, by H. D. Kruse and Frank G. Woodruff. A survey of nutritional status among school children and their response to nutritive therapy by John G. Brown and Harold R. Pierce. Results from the study of bone density in the appraisal of calcium status, by Pauline Berry Mack. The influence of nutrition on the course of pregnancy, by Ottavio Tervet. The objective evidence of nutritional deficiencies in pregnancy by W. T. Tomkins. Changes in blood values during pregnancy and the relation of protein levels to toxemia symptoms, by Dorothy G. White. Amino acids and protein in pregnancy with and without toxemia, by Thomas Friedman. Hypertension and renal lesions as manifestations of nutritional deficiency by W. R. Hartshorn. Minke's syndrome as mineralized disorder, by Miles Atherton. An experiment in the control of tuberculosis among Negroes, by Jean Dorman. The effect of nutritive supplements on the course of tuberculosis, by H. R. Gatz.

Note. The papers in the volume are the work of medical practitioners or others with professional interests in the relationship between nutrition and health. They are addressed to persons with similar interests but they are not so technical that they cannot be understood by persons without specialized education in medicine. In other words, the contents of the book are also within the grasp of public health personnel and social workers. The individual papers are supplemented by excerpts from the discussions at the conference, illustrations, and literature references. Several illustrations are reproduced in color.

MITCHELL, HAROLD HANSON AND MARJORIE EDMAN

Nutrition and climatic stress, with particular reference to man. Springfield Illinois Charles C Thomas 1951 234 p. illus. 24 cm. \$6.75 849

Contents. Introduction. Diet in cold environment. Diet in hot environment. Diet at altitude. Practical considerations. Literature cited. Addendum.

Note. Essentially this work is a digest of the literature bearing on such matters as the effect of diet on tolerance to cold, the effect of heat on nutrient requirements, the physiological effects of altitude, and the effect of dietary modifications on the tolerance to altitude. The literature surveyed includes both published literature and government research reports. The work itself was prepared as a government research report under contract between the University of Illinois and the Quartermaster Food and Canteen Institute for the Armed Forces as an aid in the proper planning of Army personnel in various climates and at different altitudes. It has been published in the present form because it is potentially useful in other fields than the military. The literature has been covered up to about October 1, 1949.

NUTRITION SYMPOSIUM SERIES

Recent advances in nutrition research, with emphasis on the newer B vitamins. Proceedings of the scientific sections of the seventh annual meeting The National Vitamin Foundation Incorporated New York City April 3 1952 New York The National Vitamin Foundation Incorporated, 1952 129 p. 23 cm. Paper \$1.50. 850

Contents. The metabolic role of crystalline vitamin B₁₂, by R. F. Chase. Some observations on substances combining with vitamin B₁₂, by R. F. Chase and R. J. Davis. Role of the vitamins in amino acid production, by A. R. Anderson. Amino acids in protein-energy acid deficiency, by W. A. Kral and others. Some studies on the role of certain of the B vitamins in metabolism, by D. R. Weir and R. W. Hulse. The effect of certain nutritional factors on the reactions produced by acute stress in human subjects, by K. F. Rall. The role of vitamin B₁₂ in the metabolism of the amino acids, by R. W. Schenker. The role of B vitamins in the nutrition of the pig, by R. W. Lenz. The comparative value of various nutritive factors as rat feed, by H. D. Wallace and T. J. Coughlin.

Note: A collection of original papers in which recent important developments in selected areas of nutrition research are summarized for professional workers. Literature references are included.

SHERMAN, HENRY CLAPP

Chemistry of food and nutrition. Eighth edition. New York The Macmillan Company 1952 721 p. illus. 22 cm. \$6.00 851

Contents (abridged) Carbohydrates. Fats and lipids. Nutritional chemistry of the proteins and their amino acids. Enzymes and digestion. The basal energy metabolism, regulation of body temperature, and specific dynamic action. Total energy metabolism and food requirements. Quantitative aspects of protein acids and values. Mineral elements in foods and nutrition. Nutritional aspects of acid-base balance. Quantitative aspects of calcium and phosphorus needs and values. Iron and copper in food and nutrition. Iodine in nutrition. Ascorbic acid (vitamin C). Thiamine (vitamin B₁). Riboflavin. Nicotinamide (nicotinic acid) and the pellagra problem. Folic acid, vitamin B₁₂, and carotene factor. Other water-soluble vitamins and substances of related interest. Vitamin A and its precursors. The vitamin D and prevention of rickets. The nutritional chemistry of reproduction and lactation. Some chemical aspects of growth and development. Dietary adequacy and nutritional status. Conscious chemical control of the internal environment—the problem of the best use of food. Causes and extent of variations in the nutritive values of foods. Food economics in the light of the new chemistry of nutrition. Improvement of already-nourished nutrition. Appendix. Index.

Note. (716P) A standard work since the publication of the first edition in 1911. It was designed and is widely used as college text for use in human economic courses and other courses where fairly extensive knowledge of the fundamentals of nutrition is important. It has gradually taken on the status of a reference book for lay readers, social workers, public health workers, and others who have serious interests in the facts regarding the relation of nutrition to health. The style is concise and good deal of space is given to tables, formulas, and bibliography. The seventh edition was published in 1944. In this edition the three last chapters are new and numerous revisions have been made in the text of other chapters.

SHERMAN HENRY CLAPP AND CAROLINE SHERMAN LANFORD

Essentials of nutrition. Third edition. New York The Macmillan Company 1951 454 p. illus. 22 cm. \$4.25 852

Contents (abridged) The nutritional improvement of life. The more abundant nutrients in foods. What happens to food in the body—digestion and metabolism. Energy aspects of nutrition. How to meet the energy need and how the body weight may vary. How to meet the need for protein. Mineral elements and respiratory processes in nutrition. Indoles. Ascorbic acid (vitamin C). Thiamine (vitamin B₁). Riboflavin, nicotinamide (nicotinic acid) and the problem of pellagra with its related B₁₂. Other water-soluble vitamins. Vitamin A and its precursors. Rickets and the vitamin D. Other fat-soluble vitamins. Some releases of food to the world. Nutritional characteristics of food commodities. Food costs and value—nutritional guidance in food economy. Appendix. Food safety. Digestive enzymes. Composition and nutritive values of foods. Recommended dietary allowances. Glossary. Subject index.

Note. (1860) A relatively brief textbook designed particularly for introductory college courses taken mainly by students who have had no previous courses in chemistry and physiology. Interest is lent to the subject by looking it in the student's own nutritional problems as, for example, in the chapter where the relations between food intake and body weight are discussed. There are 41 tables of reference data and selected but extensive bibliography. In this edition numerous changes have been made to bring the book in line with the 1948 revision of the National Research Council's Recommended daily dietary allowances and with other developments.

SHERMAN HENRY CLAPP

The nutritional improvement of life. New York Columbia University Press 1950 270 p. illus. 23 cm. \$3.75 853

Contents. Introductory—nutrition as public concern and as individual endeavor. Nutrition in the scientific-hygienic of personally organized research in nutrition. First decade of the twentieth century sources of nutrition. Nutrition in the decade of 1911-1920. Advances during 1921-1930 and the concept of nutritional improvement. Nutrition in the decade of 1931-1940. In the Second World

Wat. Principles and practice. The liberal environment and the quality of life. Improved nutrition and length of life. Further human implications. Better nutritional status for more people. Appendixes: The 1946 world food survey of the Food and Agriculture Organization of the United Nations. Records of actual food consumption. Selected bibliography index.

Note: The main theme of this book by an internationally known authority on nutrition is that the rapid advance of nutritional knowledge especially in the present century has already improved the quality of human life and promises further improvement in the years ahead. The presentation is read popular and the book is potentially of interest to professional workers in the fields of public health, nutrition, and child care as well as to these general readers. The book contains discussions of scientific subjects.

TOEPFER, EDWARD WILLIAM, and OTHERS

Folic acid content of foods. Microbiological assay by standardized methods and compilation of data from the literature. By Edward W. Toepfer, Elizabeth Gates Zook, Martha Louise Orr and L. R. Richardson. Washington D. C. Government Printing Office, 1951. 116 p. illus. 26 cm. (United States Department of Agriculture. Agriculture handbook no. 29) Paper \$0.45 854

Contents: Introduction. Part I. Laboratory analysis of foods. Analytical procedures. Standardization of growth curves. Calculation of confidence limits. Reproducibility of assays. Recovery of added folic acid. Potential enzyme activity of children's specimens. Comparison of extractions. Results of laboratory analysis of foods. Part II. Compiled data on folic acid content of foods. Literature cited.

Note: Recognition of folic acid as a factor required for growth, reproduction, and prevention of anemia in animals and for treatment of several types of anemia in human beings led to the laboratory work on the folic acid content of food which is described and summarized in this handbook. The study was carried on jointly by the Bureau of Human Nutrition and Home Economics in Washington and by the Texas Agricultural Experiment Station. Results are reported of the systematic application of standardized analytical procedures to a large number of foods. Two summary tables on the folic acid content of various foods are given. The first, covering 16 pages, contains the detailed results of the laboratory analysis of samples purchased, locally produced, and special foods, showing total and free folic acid in edible portions determined by microbiological assay with *Lactobacillus casei* and *Streptococcus faecalis* the second, covering 79 pages, contains compiled data from literature and other sources. References listed in the bibliography number 131.

METABOLISM

GAUNT, ROBERT, and JAMES H. BIERER

Hormones and body water. Springfield Illinois. Charles C. Thomas, 1951. 57 p. illus. 22 cm. (American lecture series. Publication no. 103. A monograph in American lectures in physiology edited by Robert F. Pitts) \$2.25 855

Contents: Introduction. Evolutionary considerations. The posterior pituitary antidiuretic hormone. The adrenal cortex. The thyroid. The adrenal medulla. The pancreas. The gonadal hormones. Toxicosis of pregnancy. The liver. The adipothelial syndrome. Water metabolism. Water metabolism in the newborn. Conclusions. References.

Note: This short monograph presents a synthesis of the available information on the activities of hormones as water metabolism in the human body. The action of individual and groups of hormones are considered as are some of the evolutionary factors which developed the present functional mechanisms of the human body. The bibliography contains 134 citations. The authors are faculty members of the Department of Zoology of Syracuse University.

HARTMAN FRANK ALEXANDER and KATHARINE A. BROWNELL

The adrenal gland. 72 illustrations. Philadelphia. Lea & Febiger, 1949. 581 p. illus. 24 cm. \$12.00. 856

Contents: Anatomy. Adrenal size. Circulation and innervation. Histology. Development. Growth. Involution. Chemistry of chromaffin tissue. Chemistry of cortical tissue. Methods of assay and factors in secretion of epinephrine. Amphipathic shock and other effects in relation to the medulla. Physiological and pharmacological effects of epinephrine. Functions of internal tissue. Release of the adrenal in electrolyte and water exchange. Rhythms of the adrenal cortex in energy metabolism. Output and functions of cortical hormones. Function and fate of cortical hormones. Dietary factors in adrenal activity. Internalization of the adrenal with the pituitary. Adrenal hypertrophy and regeneration. Other adrenal interrelationships. Relations of the adrenal cortex to the neural organs. Adrenic diseases. Other interrelationships. Hypoadrenism of chromaffin tissue. Hypersensitivity of the adrenal cortex. Adrenocortical syndrome. Adrenal pathology. Pathology related to adrenal dysfunction. Bibliography. Author index. Subject index.

Note: A monograph which presents the accumulated knowledge of the adrenal gland and its homologues throughout the animal kingdom, but with the greatest emphasis on the gland in mammals. The inclusive scope is obvious from the chapter titles. The chapters are concise critical digests of the pertinent literature and are loyal to the 126 page bibliography of source articles. The author either has made many contributions to the field and built his and the lower author's findings are incorporated. The book is important in the literature of comparative physiology as well as in the narrower field of endocrinology.

McELROY, WILLIAM DAVID, and BENTLEY GLASS, editors

Copper metabolism. A symposium on animal, plant and soil relationships. Sponsored by the McCollum Pratt Institute of the Johns Hopkins University Baltimore. The Johns Hopkins Press, 1950. 443 p. illus. 24 cm. \$6.00 857

Contents: The formation of copper complexes, by A. H. Corrin. The copper protein, ceruloplasmin and azurin, by C. R. Deyson. The nature of the copper enzymes involved in tyrosine oxidation, by M. J. Mollath. Phenol oxidase and plant resistance, by J. M. Mollath. Functional aspects of copper in plants, by D. L. Aron. The copper metabolism of green plants and fungi, by R. A. Steinberg. A survey of reactions involving copper proteins, by J. R. Thompson. Copper metabolism in the invertebrates, by V. G. Dethlefs. Copper metabolism in the vertebrates, by C. L. Conner. The influence of copper on the metabolism of phosphorus and sulfur, by G. K. Davis. Problems associated with copper deficiency in ruminants, by R. R. Martin. Copper and metabolism in relation to diseases of cattle and sheep in New Zealand, by I. J. Constable. Copper metabolism in human subjects, by G. R. Cartwright. The chemical nature of the copper complex in plant soils and plants, by J. E. Deyson and C. E. M. Mac. Trace elements and phosphorus in herbicide plant nutrition, by H. C. Trumble. The nutrient element content of soils forage in relation to land forms and soil types in the North Carolina coastal plain, by E. C. Mason and G. Matson. A summary of the symposium, by B. Glass. Author index of participants. Subject index.

Note: A collection of the original papers (together with excerpts of the discussions) presented at the symposium mentioned in the book's title. The papers are supplemented by lists of references, graphs, tables, and other illustrative matter. Most of the authors are scientists themselves who took part in original investigations bearing on the subject of their papers. The book is of interest primarily to graduate scientists conducting research in plant and animal nutrition and scientists in industry who are concerned with the application of the results of such research in the formulation of herbicide and animal feeds, etc.

McELROY WILLIAM DAVID and BENTLEY GLASS, editors

Phosphorus metabolism. A symposium on the role of phosphorus in the metabolism of plants and animals. Sponsored by the McCollum Pratt Institute of the Johns Hopkins University Volume 1. Baltimore. The Johns Hopkins Press, 1951. 762 p. illus. 24 cm. \$10.00 858

Contents (abridged): Metabolism of polymeric phosphates and phosphates, by W. E. Knapf. The problem of the direct utilization

of disaccharides by certain microorganisms, by M. Doudoroff. The synthesis of polycarboxylic acids without the intermediation of phosphates, by E. J. Hehre. The effect of the hyperglycemic factor and epinephrine on liver and muscle phosphorylation, by E. W. Rothermel. Some studies of fructose metabolism, by M. W. Sela. Phosphatidylcholine and alcohols, by J. F. Taylor. The metabolism of pentose and triose phosphates, by R. L. Hawker. The primary product of glucose-4-phosphate oxidation, by P. Lipman. Pyrimidine nucleosides, by F. Schick. Recent investigations on the formation and utilization of active acetate, by H. A. Barker. Initial stages of pyruvate oxidation, by R. L. Scherer and others. Acetyl transfer in the enzymatic synthesis and breakdown of choleic acid, by J. R. Sauer. The metabolism of two-carbon compounds, by D. Novell. Lactate and citric isocitrate, by E. F. Corson. Oxidative phosphorylation during electron transport, by F. R. Hunter. E. Ketyl alcohol oxidation and phosphorylation in extracts of R. cells, by O. R. Fischer and R.acker. The regulation of the rate of oxidation in rat liver mitochondria, by V. R. Potter and R. O. Richmond. The metabolism of phosphorus-containing coenzymes, by A. Kornberg. The structure of coenzyme A, by G. D. Novell. The structure of pyridine phosphate, by I. C. Gonsky. Pyridine nucleotides and coupled phosphorylation, by M. O. Kaplan. The biochemistry of isomerase pyrophosphates and metaphosphates, by G. Schmidt. The influence of hormones on phosphorylation reactions, by H. Lardy. The chemistry and thermodynamics of phosphate bonds, by P. Cooper. Phosphate metabolism in the activity of skeletal and cardiac muscle, by W. F. H. M. Meersma. Energy sources of bioelectricity, by D. Macdonald. Phosphate bond energy and biochemistry, by W. D. McElroy. Urea formation, by E. Rabin. The synthesis of peptide bonds, by F. P. Cohen. Adenosine triphosphate and carbon dioxide fixation, by M. P. Usher. Summary by R. Allen. Author index of participants. Subject index.

Note. The original papers in this work together constitute substantial contributions to the literature of biochemistry. The symposium was organized around a series of major papers in which the current knowledge of particular areas of phosphorus metabolism is summarized at some length. The major papers are complemented by shorter papers in which research workers present the results of their own investigations in the area. The titles of all the main papers and of majority of the shorter papers are listed below. The papers are accompanied by lists of references. The subject index of the book is exceptionally full.

SALTER, WILLIAM THOMAS

Chemical developments in thyrology
Springfield, Illinois Charles C Thomas 1950.
87 p. illus. 22 cm. (American lecture series.
Publication no 26 A monograph in American
lectures in endocrinology edited by Willard
O Thompson) \$2.00 859

Contents: Introduction. Synthesis of the thyroid hormone. The blocking of thyroid activity. Circulating thyroid hormone. Application of radioisotopes. Synoptic bibliography index.

Note: A useful and instructive summary of advances in the understanding of the thyroid hormone and of thyroid disease made in the period 1925-1948. A critical review of radioactive tracer techniques in studying thyroid physiology is included. What is known about the "metabolic chaos of the thyroid hormone" is briefly stated and points which are still obscure are indicated. There is bibliography of 119 citations of literature published 1923-1949.

SELLE, W. A.

Body temperature, its changes with environment, disease and therapy Springfield, Illinois Charles C Thomas 1952 112 p. illus. 22 cm. (American lecture series. Publication no 147 A monograph in American lectures in physical medicine, edited by W. A. Selle) \$3 50 860

Contents: Introduction. Heat production Heat dissipation. Insulated temperatures control Neural mechanisms of temperature regulation. Internal disturbances of heat regulation. Environmental disturbances of heat regulation. Physical therapy. References. Index.

Note: A concise summary of current knowledge. Although devoted toward the clinical aspects, most of the space is devoted to covering the physiology and the neural values. However the therapy of such infarms as (metabolic) is outlined. The book is essentially literature digest, and the bibliography lists 123 references.

SELYE, HANS, AND HELEN STONE

On the experimental morphology of the adrenal cortex. Springfield, Illinois Charles C Thomas, 1950 105 p. illus. 22 cm. (American lecture series. Publication no 74 A monograph in American lectures in endocrinology edited by Willard O Thompson) \$2 75 861

Contents: Introduction. Materials. Experimental. Histologic findings and discussion. Summary. References.

Note: A condensed report of the findings in a series of experiments on rats and dogs conducted to elucidate hormonal influences on the gross weight and histologic structure of the adrenal cortex. The effects of six hormones and combinations of them were studied. The results are discussed and are related to previously published work in the field. There are 15 plates of illustrations and bibliography.

SOSKIN, SAMUEL, AND RACHEL LEVINE

Carbohydrate metabolism correlation of physiological, biochemical and clinical aspects. Revised edition. Chicago Illinois The University of Chicago Press, 1952 346 p. illus. 25 cm. (The University of Chicago Committee on Publications in Biology and Medicine Lester R. Dragstedt and others) \$8.50 862

Contents: Part I. The biochemistry and energetics of carbohydrate metabolism. The importance of carbohydrate in nutrition. The enzymatic machinery of carbohydrate metabolism. The intermediary steps in carbohydrate metabolism. The liberation and transfer of the energy derived from carbohydrate metabolism. The use of energy for muscular contraction. Part II. Interdisciplinary physiological considerations: Nerve and secretions in the tissues of metabolic importance to carbohydrate metabolism. Sites of origin of blood sugar. The use of the diabetic organism in the study of gluconeogenesis. Part III. Critical survey of the chemical effects of diabetes. Quantitative secretion of endometrial sugar and the glucose-tolerance tests. Ketosis. The respiratory quotient. Gluconeogenesis from proteins. Gluconeogenesis from fat. Oxidation, fermentation, and oxidation of carbohydrate. Part IV. The role of the endocrine glands in carbohydrate metabolism. Pituitary (Insulin). The mode of action of insulin. The adrenal cortex. The thyroid. The anterior pituitary. Permanent experimental diabetes produced without surgery. Part V. Integration of physiological and clinical aspects. Regulation of carbohydrate metabolism. Pathological physiology and clinical applications. Comparative physiology of diabetes. Present frontiers of research in metabolism. Index.

Note: (194) The special features of this textbook is its broad approach to the subject. The authors point out that the instruction in metabolism is usually divided among different departments of the same institution, with the result that the student acquires a disjointed understanding of carbohydrate metabolism. Their book is designed to correlate the material and to present a comprehensive picture of carbohydrate metabolism and of selected aspects of fat and protein metabolism. It is designed for students of physiology, biochemistry and medicine. The first edition was published in 1944. In this edition many significant revisions and additions are apparent. Many of them are based on the great advances in knowledge of metabolic processes which have been made possible by the use of radioactive isotopes in biological investigations. Recent literature has been added to the extensive chapter bibliography.

WOOLLEY, DILWORTH WAYNE

A study of antimetabolites. New York John Wiley & Sons Inc. 1952 269 p. 24 cm. \$5.00. 863

Contents: Introduction—Discovery and development of known antimetabolites. Competition between metabolically important compounds and substances related to them in chemical structure. Some general aspects of the phenomenon. Hypotheses about mechanism of action of antimetabolites. The spectrum of activity of antimetabolites. The natural occurrence of antimetabolites in plants. Selectivity of action of antimetabolites. Applications to chemotherapy. Other applications to pharmacology. Applications to biochemistry. The design-

ing of antimitobolites. Practical suggestions for the synthesis and testing of antimitobolites. Bibliography Index of structural formulae. Subject index.

Note: The term "antimitobolite" as used in this book designates substances which are closely related to chemical structure to essential metabolic substances and have the additional property of interfering with these substances in the biochemistry of living organisms. The interest in antimitobolites derives (1) from the fact that experiments with them may throw on biochemical processes, and (2) from the possibility that an understanding of them will point the way to the synthesizing of powerful pharmacologic agents. This book is a survey of the current state of the field. It includes results from the author's own investigations and also those that have been reported in the literature. There is bibliography of five hundred references.

ZIMMERMANN, BERNARD

Endocrine functions of the pancreas. Springfield, Illinois: Charles C Thomas, 1952. 82 p. illus. 22 cm. (American lecture series. Publication no. 114. A monograph in American lectures in endocrinology edited by W O Thompson) \$2.50 864

Contents: History. The nature of insulin. Metabolism in diabetes and the action of insulin. The regulation of internal pancreatic secretion. Special problems in lipid metabolism. The hyperglycemic factor. Conclusions. Index.

Note: A brief but useful summary of the current knowledge of the pancreas viewed as an endocrine gland, together with indications of aspects that need further investigation. An example of the latter is elucidation of the chemical mechanism by which insulin exerts its metabolic action. The book is based on selective and critical review of the literature in which the results of experimental investigations are reported. Fairly extensive bibliographical lists are included with the chapters.

SENSES AND SENSATION

GESSELL, ARNOLD AND OTHERS

Vision: its development in infant and child. By Arnold Gesell, Frances L. Ilg and Glenna E. Bullis. Assisted by Vivienne Ilg and G N Getman. Third printing with additions. New York: Paul B Hoeber Inc. Medical Book Department of Harper & Brothers 1950. 331 p. illus. 24 cm. \$7.50 865

Contents: Introductory. The eyes of today and tomorrow. Orientation: the background and scope of this study. The evolution of the human vision system. The motor basis of vision. Part one, The growing vision system. The genesis of vision. Infancy. The preschool years. The school years. Part two, Developmental optics: The visual domain. The complex of visual functions. The young eye in action. The outgrowths of visual behavior. Maldevelopment and child vision. Part three, Developmental approach. A developmental typology of child vision. The conservation of child vision. Appendix. Examination sequences and procedures. Oculogistic grounds of visual behavior. Selected references. Index.

Note: Reported in this volume are the results of two-year investigation of the growth of visual functions in relation to the over-all development of infant and child from embryo and fetus through the age of 10 years. The study, which was carried on for the most part at the Yale Clinic of Child Development and the New Canaan Country Day School, included clinical examination of behavior patterns, graded tests of visual skills, optometric measurements, and retinoscopic determinations of the brightness, the motion, direction, speed, and color of the retinal reflex in the eye. The purpose of the study was to indicate the nature and dynamics of the role of the development of the eye in the action system of the child. While the authors point out that their conclusions are preliminary in character, the work is an important one both for the understanding of vision and the understanding of children. Many of the illustrations are taken from the Yale films of Child Development.

HIRSCH, IRA J

The measurement of hearing. New York: McGraw Hill Book Company Inc. 1952. 364

p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan editor) \$6.00 866

Contents: Foreword, by Hallowell Davis. Preface. Introduction. Signification and measurement. The auditory threshold: sound and electricity. Electromagnetic systems. Absolute threshold for pure tones, the audiogram. The intelligibility of speech. Auditory masking and fatigue. Differential sensitivity. Loudness and recruitment. Musical hearing and tone conduction. Concluding in audiology. Clinical audiology. Appendix. Specifications for audiometers. Speech materials for auditory tests. Glossary. Bibliography. Name index. Subject index.

Note: All aspects of the measurement of hearing except the anatomy and physiology of the ear are considered in this work. The main emphasis is on the psychophysical aspects of the relations between sound sensation and stimuli. In the first chapter the reader is introduced to psychophysical methods, in the third chapter to the principles and characteristics of audiometers and hearing aids, and in the final chapter to the clinical techniques of measuring hearing. The rest of the book is chiefly devoted to use of experimental techniques in testing and measuring such aspects of the problem as ability to hear speech, auditory fatigue, auditory discrimination, etc. The book was written when the author was associated with the Psycho-Acoustic Laboratory of Harvard University and it was originally published as a report under the auspices of the Office of Naval Research.

ITTELSON, WILLIAM H.

The Ames demonstrations in perception: a guide to their construction and use. Princeton New Jersey: Princeton University Press, 1952. 88 p. illus. 28 cm. Paper \$4.00 867

Contents: The size-point demonstration. The line demonstration. The size-brightness demonstration. The equality demonstration. The parallel demonstration. The length-breadth and apparent demonstration. The "three-quarter" demonstration. The chair demonstration. The weight-cum-mass demonstration. The slanting demonstration. The critical value demonstration. The tilting screen demonstration. The distorted room demonstration. The size-brightness demonstration. The radial motion demonstration. The tangential motion demonstration. The circular motion demonstration. The "T" motion demonstration. The rotating suspended demonstration. The array demonstration. Bibliography.

Note: Twenty demonstrations developed under the direction of Professor Adolf A. Ames, Jr., of the Dartmouth Eye Institute and Institute for Advanced Research are specifically described in this book. The descriptions include for each demonstration: photograph or drawing of the apparatus; brief description of the apparatus and its operation; an outline description of typical observations and effects which can be demonstrated with the apparatus and demonstrated drawings for the guidance for those who wish to construct the apparatus. The demonstrations are not limited to the study of vision but include wide range of perceptual phenomena.

LINKS, ARTHUR

Physiology of the eye. Foreword by Walter B. Lancaster. New York: Grune & Stratton, 1950-52. 2 v. illus. 26 cm. Vol. 1 \$7.50. Vol. II \$19.00 868

Contents: (Vol. I) Volume 1. Optics. Physics of light. Geometric optics. The eye as an image-forming mechanism. Volume II. Vision: An analysis of structure, function and development. The perception of spatial relationships. Vision and the sensory system. References. Author index. Subject index.

Note: The books described here are the first two volumes of projected three-volume work. The work is a development of many years of teaching. The author describes it as a transcript of lectures but obviously the lectures have been consolidated and revised to a more coherent. However, the informal style remains. Practically all points mentioned are fully discussed. The author's style is lucid and he has included numerous sections of optical illusions and other interesting matters that add interest to the exposition. There are 127 figures in volume I and 248 in volume II.

OGLE, KENNETH NEIL

Researches in binocular vision. Philadelphia: W B Saunders Company 1950. 345 p. illus. 25 cm. \$7.50. 869

Contents (abridged) Part I. The organization and sensory cooperation of the two retinas: The structure of the visual pathways. The theory of corresponding retinal points. Studies of the empirical hemispherical hemispheres. The empirical hemispherical hemispheres and hemispherical asymmetries. Part II. The functional processes in binocular single vision. Pigeon's binocular vision. Fixation disparity. The fusion of peripheral retinal stimuli. The cyclofused eye movements. Part III. The problems in binocular vision when changes are made in the relative magnifications of the images of the two eyes. Optical means for changing the magnification of the retinal image. Spatial localization and stereoscopic vision. The detection of the stereoscopic perception of space. The induced effect. Asymmetric convergence. A theory of the induced effect. The sensitivity of the eye in the discrimination of differences in the relative magnifications of their images. Part IV. The experimental and theoretical bases for anisometropia. The instruments for measuring differences in the magnifications of the images of the two eyes. The origin of magnification differences between the images of the two eyes. The stability of corresponding retinal points. 2) movements and anisometropia. Appendix: The theory of the correction of anisometropia. The apparent orientation of the cross of the space anisometer. References. Index.

Note: A major contribution to the understanding of the psychophysical physiology of binocular vision. It is based chiefly on an extensive program of research carried out at the Dartmouth Eye Institute. Some of the information included has not been published previously. The list of references runs to 129 chapters and includes both the publications of the staff of the Dartmouth Eye Institute and the pertinent publications of other workers.

UNITED STATES LIBRARY OF CONGRESS. TECHNICAL INFORMATION DIVISION

Visibility a bibliography Compiled by Jack Weiner and Morris C. Lefkind. Edited by Jack R. Gibson. Washington: The Library of Congress, 1952. 90 p. 27 cm. Paper \$0.65

870

Contents (abridged) Visual detection factors in the laboratory. Physical variables in the field. Field visibility comparisons, measurements and observations. Engineering applications of visibility data. Author index.

Note: An unclassified but classified list of more than 3,000 references in the International Bibliography published from 1915 to 1950 inclusive on the subject of visibility as influenced by the various physical, psychological, and physiological factors inherent in the observer, target, background and atmosphere, and the engineering applications of visibility data.

WALLS GORDON LYNN AND RAVENNA W MATEWES

New means of studying color blindness and normal foveal color vision, with some results and their genetical implications. A contribution from the School of Optometry and the Department of Psychology of the University of California. Berkeley Calif. University of California Press 1952. 172 p. illus. 23 cm. (University of California publications in psychology Vol. 7 no. 1) Paper \$2.50

871

Contents: Introduction. Normal color vision. Big lower color blindness. The cone hypothesis. Genetics of color blindness. Maxwell's spot. Receptor-type distribution. Methods. The cone hypothesis. The J-H test. Neural point distribution. The RDP. Results and discussion. Color-normal subjects. Typical dichromats. Typical anomalous trichromats. Typical monochromats. Protanopia-normality heterozygotes. Special cases—monochromats. Special cases—normal heterozygotes. Interpretations of the RDP. Standard monochromacy. Bibliography.

Note: The results of an experimental exploration of the cone-rod hypothesis of color blindness using the monochromator. After instruments, as reported in this work. The methods adopted are put forward as an essentially new and valuable means of studying the common types of color blindness and normal foveal color vision.

WATSON LELAND A. AND THOMAS TOLAN
Hearing tests and hearing instruments. Baltimore: The Williams & Wilkins Company 1949. 597 p. illus. 24 cm. \$7.00

872

Contents (abridged) Part one, Background of the audiometer. Fundamentals of hearing relating to audiometers and hearing aids. Fundamentals of audiometry. Part two, Interpretations of audiometric data. Evaluating the audiogram and speech hearing tests. Audiometric studies as an aid to diagnosis. Part four, Social aspects of audiometry. Social problems and aspects of deafness. The audiometer in military, industrial, and medical-legislative hearing. Social hearing tests and problems. Part five, Hearing aids: The prescription and fitting of hearing aids. Social and economic aspects of the hearing aid. Part six, Advanced audiometry: Advanced audiometry and research. Bibliography. Reference bibliography. Chemistry of terms in audiometry. List of tables. List of illustrations. Index.

Note: This book is a detailed practical manual on the use of modern pitch range audiometers in the measurement of hearing and on the prescription of present-day hearing aids for the correction of defective hearing. There is some discussion of the background, physiological and physical principles, and even of the social aspects, but most of the space is devoted to matters of direct concern to the use of the audiometer and the prescription of hearing aids. The presentation is technical, and the book is designed for medical practitioners and others with professional interests in the subject.

WEVER, ERNEST GLEN

Theory of hearing. New York: John Wiley & Sons Inc. 1949. 484 p. illus. 22 cm. (Wiley publications in psychology Herbert S. Langfeld advisory editor) \$6.50

873

Contents: Part I. The classical theories: The beginnings of auditory theory. The Helmholtz resonance theory. The place theories after Helmholtz. The frequency theories. Part II. The modern developments: Modern developments of the classical theories. Auditory nerve responses. Frequency representation in the auditory nerve. The volley principle. Part III. The volley theory: Basic evidence. Further evidence on cochlear localization. The acoustic analogy. Sensitivity. Loudness and binaural. Pitch and pitch discrimination. Auditory characteristics. The products of neural interaction. Temporal phenomena of auditory perception. Binaural phenomena. The volley theory in order: concluding observations. Definitions and symbols. References. Index.

Note: The author, Professor of Psychology at Princeton University, shows that the two main types of hearing theory formerly advanced and thought to be in conflict—the resonance type of place theory and the discrete (frequency) theory—may be reconciled in the volley theory. The book sets forth in an easy technical language the physical principles underlying the relationship between the physics of sound and the psychology of hearing and shows how the physical sound acts upon the sensory and neural mechanisms of the body and through it, as shown here, becomes translated into auditory experience. The bibliographical references cover 23 pages.

ZAHLE PAUL ARTHUR, editor

Blindness: modern approaches to the unseen environment. Princeton New Jersey: Princeton University Press 1950. 576 p. illus. 24 cm. \$7.50

874

Contents: Part I. History and writers: Blindness in the United States. By G. Farwell. Blindness in Great Britain. By W. M. Capet. Blindness in Canada. By E. A. Baker. The blind in continental Europe. By R. R. Irwin. Additional factors affecting the blind. By P. B. Platt. Part II. Education and psychology: The precluded blind child. By E. K. Maxwell. Psychological foundations of special methods in teaching blind children. By G. Lewinfield. Education of blind children in the public schools. By G. F. Mayer. Home teaching and carework with the blind. By E. K. Plante. Measuring the intelligence of the blind. By P. F. Mayer. Personality and social adjustment among the blind. By T. D. Cateforth. Part III. Vocational considerations: Vocational rehabilitation of the blind. By D. H. Dakestale. Problems of the blind in industry. By P. J. Salomon. The deaf-blind. By F. J. Salomon. The blind and the professions. By H. Leeds. Laboratory work for the blind. By C. M. Wecker. Part IV. The military blind: The blinded veterans. By L. Greenwood. The Army blind in the United States. By A. R. Blackburn. Rehabilitation procedures in the Mary Marine Corps, and the Coast Guard. By M. E. Franzese. The service was blinded in Great Britain. By I. Fraser. Part V. Translated books to the blind: Awareness of communication. By G. Farwell. The talking book. By R. R. Irwin. The cone on travel aid. By E. K. Heaver. The guide dog movement. By W. H. Zhang. A new view of the guide dog as a travel aid. By H. Chavigny. Part VI. Exploration of new technological horizons: Devices to aid the blind. By C. G. Rieker. Researching machines as a tool for blind people.

by G. F. Meyer. The Committee on Sensory Devices, by G. W. Carver. Research on guidance aids for the blind, by P. A. Zahl. Factors in the assay and use of guidance devices, by E. A. Jerome and H. Proshansky. Psychological problems in the development of instrumental aids for the blind, by E. E. Lashley. Research on reading machines for the blind, by F. E. Cooper. Electrical and magnetic production of "phosphores" and their possible application to problems of the blind, by C. F. Hawkins. Part VII, Ophthalmological factors. The causes of blindness, by J. M. Greener, Jr. Index.

Note. This work was a project of the National Research Council's Committee on Sensory Devices. It contains the best available account

of the mechanical and electrical devices that have been developed and that are under development for the aid of the blind. Typical of this material is the chapter on reading machines which contains descriptions of the machines that have been invented, discussions of their advantages and shortcomings, accounts of the experimental progress of the Committee on Sensory Devices, a general survey of the problems that must be solved in the development of fully successful machines of the type, and a list of the pertinent literature. The book contains, in addition, authentic discussions of other aspects of education and rehabilitation of the blind as indicated by the chapter titles.

BIOCHEMISTRY

GENERAL

ANNUAL REVIEW OF BIOCHEMISTRY Volume 21
J Murray Luck, editor Hubert S Loring,
associate editor Gordon Mackinney associ-
ate editor Stanford, Calif Annual Reviews
Inc. 1952 781 p. 23 cm. \$6 00 875

Contents: Prokaryotic enzymes, by A. K. Balls and K. F. Jansen. Membrane, nonspecific enzymes, by K. I. Abrams and A. L. Demina. Chemistry of the carboxyls, by R. M. Kinsborough and J. W. C. Orr. Chemistry of lipids, by H. J. Harwood, R. W. and J. Allen. Sterols, The chemistry and metabolism of the sterols, by J. W. C. Orr and M. Reich. The chemistry of amino acids and proteins, by H. B. Nielsen. Macromolecular acids, peptides, and polypeptides, by D. G. Jordan. Fat metabolism, by A. C. Fagan. Interrelationships of lipid and carbohydrate metabolism, by K. Reich. Metabolism of organic acids and peptides, by H. Tervet. Fat-soluble vitamins, by A. R. Kamenar. Nicotinic acid, by E. J. Sipwood. Chemistry of amino acids, by M. Delabran. The biochemistry of nonproteinic amino acids, by F. C. Zamecnik. The biochemistry of antibiotics, by T. S. Work. Comparative biochemistry, by M. Fickler. Carotenoids, by G. Macdonald. The alkaloids, by L. I. Benisek and L. F. Smith. Chromogenes, by S. Moore and W. H. Rains. Carbohydrate metabolism, by S. Ochoa and J. R. Slack. Chemistry of the steroid hormones, by C. H. Li and J. I. Hanna. Water-soluble vitamins concerned with one- and two-carbon metabolism, by A. D. Wadman. C. A. Nichol. Miscellaneous selections, by R. Chance and W. S. Hoar. 1967, 1968.

[illegible]ARTZ, NEAL ELLSWORTH, AND ELIZABETH
M. OSMAN

Biochemistry of glucuronic acid New York Academic Press, Inc., 1950 103 p. illus. 23 cm. \$3.00 876

Notes: A digest of the international literature that bears on the biochemistry of glucuronic acid and especially on its metabolic significance. Statements and facts in the text are carefully keyed to the bibliography which lists 454 books and papers. The authors are associated with the Coca Products Institute, Cincinnati.

BIOCHEMICAL PREPARATIONS, Volume 1 Herbert E. Carter editor-in-chief New York John Wiley & Sons Inc. 1949 76 p. 24 cm. \$2.50 877

Counter: Adenosine diphosphate, Adenosine triphosphate, L-alanine and L-serine, Ambazone, β -malic acid and trihydroxy, β -hydroxybutyrate, β -malic acid, β -oxoethylmalic acid, malic acid, dihydroxy succinate, Glucose, β -D-glucopyranosyl-L-alanine, Dapicolophorinate, succinate. The α -glucosyl-L-phosphate, L-glutamate, α -glyoxylic acid, L-phosphoric acid, Lysine, L-lysine monohydrochloride, Lysine, L-tyrosine. Select Index.

— Volume 2 Advisory board, W Mansfield Clark and others. Editorial board Eric G Ball, editor-in-chief New York John Wiley & Sons Inc, 1952 109 p. 24 cm. \$3 00
878

[illegible]BLOCK, RICHARD JOSEPH, AND DIANA
ROLLING

The amino acid composition of proteins and foods: analytical methods and results. Second edition. Springfield, Ill. Charles C Thomas, 1951. 576 p. 25 cm. \$11.50 879

Contents (abridged) The dioxime acids: crystalline, lactidic, hydra, hydroxytrypsin, and citrulline. The oxamic acids: tryptophan, tyrosine, phenylalanine, aspartic acid, glutamic acid, and dihydroxyphenylalanine. The sulfur containing amino acids: cysteine, cysteine, and methionine. The α -hydroxy acids: ascorbic acid and threonine. The "lactone" lactidic, lactidic, and valine. The decarboxylic acids: aspartic acid and glutamic acid. Glycine and alanine. Proline and hydroxyproline. General methods. Summary tables. Protein and amino acid composition in the United States. Bibliography. Index.

Notes: (1949) Biochemistry and research workers in the field of nutrition are the principal users of the extensive compilation of data summarizing the status of research on the vast variety of vitamins and amino acids and on analytical procedures used in the identification of proteins. Like the previous edition (1945) this revision is based chiefly on a review of the published literature of the subject, but some data from unpublished manuscripts and from the authors' own experimental work are included. The work has been expanded to cover research of the past six years. The inclusion of new values for many vitamins and amino acids and newly enlarged bibliography account for almost 200 additional pages.

BLOCH RICHARD JOSEPH AND OTHERS

Paper chromatography: a laboratory manual, by Richard J. Block, Raymond LeStrange, and Gunter Zweig. New York Academic Press Inc. 1952 195 p. Illus (part col'd) 24 cm. \$4.50 880

<p>Contents: Introduction. Theory and methods. Amino acids, nucleosides and nucleic acids and steroids. Purines and pyrimidines. Phenols, aromatic acids, organic substances. Antibiotics and vitamins. Author Index. Subject Index.</p>	<p>General methods. Quantitative methods. Carbohydrates. Aldehydes and ketones. Amino acids and peptides. Nucleosides and nucleic acids. Steroids. Purines and pyrimidines. Phenols and organic acids. Organic substances. Antibiotics and vitamins. Inorganic substances. Index.</p>
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Notes: A discussion and evaluation of some of the more important techniques developed in paper chromatography written by three biochemists of the Mechanical Laboratories of The Gordon Company, Yonkers, N. Y. The work is practical oriented in which tried and proven procedures, employing relatively simple equipment and available reagents, are presented. However, information is provided in sufficient detail to enable the biochemist to apply the techniques of paper chromatography to his particular problem without

recourse to an extensive search of the literature. The bibliography covers eight pages; the great majority of its references are dated 1949, 1950, and 1951.

BORRÉ, ERNEST

Man the chemical machine. New York: Columbia University Press, 1952. 219 p. illus. 23 cm. \$3.00. 881

Contents. The stuff of life. Enzymes—great molecules with gigantic know-how. Vitamins—the "helpers" helpers. Sugars—the fuel of our cells. Isotopes—tracers for exploring the cells. Amino acids and proteins—masonry of our cells. Blood—the highway to our cells. Cell defense. Genes—the blueprints of our cells. The brain—only that think. A credo. Index.

Note. A short, interesting account of some of the outstanding achievements of biochemistry. This is a little misleading, for, although there is some emphasis on man, the subject is the chemistry of life. No chemical formulas, no mathematics and no bibliography appear in the book. The story is deductively written for the general reader and it is told authoritatively and clearly. The author is a member of the faculty of the City College of New York.

BULL, HENRY BOLIVAR

Physical biochemistry. Second edition. New York: John Wiley & Sons, Inc. 1951. 355 p. 24 cm. \$5.75. 882

Contents. Atoms and molecules. Kinematics. Reaction kinetics. Ions in solution. Electrical conductance. Electroosmotic force. Cells. Acids and bases. Oxidation-reduction. Electromagnetic surface activity. Biophysics. Osmotic pressure and related properties. Viscosity and the flow of liquids. Diffusion. The microcirculation. High polymers. Structure. Index.

Note. (1916) A college textbook in which those parts of physical chemistry that are of interest in biochemistry and related biological sciences are presented for advanced students of biological sciences. The discussions of such topics as the use of the gold sol in diagnosis, diffusion through membranes of living cells, and elasticity of fibers directly relate the theoretical material to the work of medical doctors and biologists. The book is designed as an introduction, yet it is substantial enough to be of interest to graduate workers in the biological sciences who are in need of survey or "refresher" in physical chemistry. Much printing and few amounts of new material have gone into the present edition.

COWDREY, EDMUND VINCENT

Laboratory technique in biology and medicine. Third edition. Baltimore: The Williams & Wilkins Company 1952. 382 p. 24 cm. \$7.50. 883

Note. A standard reference book of information on chemical substances, instruments, and methods such as are of interest to professional laboratory work in such fields as biology, biochemistry, and medicine. The information is applied in concise paragraphs devoted to specific topics. The arrangement of topics is alphabetical with abundant cross references. Citations of pertinent literature are given under most headings. The second edition was published in 1948. The third edition represents a very extensive revision with much new material added and 25 of the old that is still useful retained.

FIESER, LOUIS FREDERICK AND MARY FIESSER

Natural products related to phenanthrene. Third edition of the monograph previously entitled *Chemistry of natural products related to phenanthrene* by L. F. Fieser. New York: Reinhold Publishing Corporation 1949. 704 p. illus. 24 cm. (American Chemical Society Monograph series No. 70) \$10.00. 884

Contents. Quinolones, naphthalene and related alkaloids. Resin acids. Steroids and bile acids. Sex hormones. Adrenal cortical hormones. Steroid metabolism. Carbinol active principles. Steroid epoxides. Steroid and terpenoid alkaloids. Biotransformation of the steroids, by Richard B. Turner. Author index. Subject index.

Note. (1949) The steroids, which comprise bile acids, heart poisons, sex hormones, and are hormones, constitute one of the largest

groups of substances whose structure is similar to phenanthrene. This volume provides a comprehensive survey of present-day knowledge regarding the chemistry and molecular structure of such compounds. Because of recent advances made in our knowledge of the chemistry of the phenanthrene, the present volume is double the size of the 1937 edition. New chapters on adrenal cortical hormones and steroid metabolism have been added, while others dealing with the steroids and sex hormones have been greatly expanded. Like other volumes in the series, the monograph is based on an extensive survey of the literature of the subject.

GLICK, DAVID

Techniques of histo- and cytochemistry: a manual of morphological and quantitative microchemical methods for inorganic, organic and enzyme constituents in biological materials. With a foreword by Robert R. Bensley. New York: Interscience Publishers Inc. 1949. 531 p. illus. 24 cm. \$9.00. 885

Contents (abridged). Microscopic techniques. Chemical techniques. Microchemical techniques. Mechanical separation of cellular components. Bibliography. Bibliography appendix. List of manufacturers. Index.

Note. Laboratory techniques and procedures for the freeze-drying preparation of tissues, for the detection of various inorganic and organic elements and substances in tissues by chemical and physical methods, and for the separation of cellular components by centrifugation are some of the techniques covered in the book. Techniques and procedures are described fully together with the apparatus and (in the case of chemical techniques) the reagents. The book is based on the literature and the text is cross-referenced to the bibliography. Bibliography included in the appendix is list of scientific papers of apparatus and chemicals. The book is addressed to graduate students and professional research workers.

GOMORI, GEORGE

Microscopic histochemistry: principles and practice. Chicago: The University of Chicago Press 1952. 273 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine. Emmet B. Bay and others) \$6.00. 886

Contents. Part I. Histochemical methods in general. The nature of the processes of identification in histochemistry. The special features of histochemical methods. The histochemical reaction. Controls to prove validity of technique. Qualitative in histochemistry. Part II. Systematic histochemistry. Inorganic substances: A. Metallic elements. B. Nonmetallic elements. Organic substances: A. Biochemical. General principles of the histochemical demonstration of inorganic substances other than metallic acids. Metallic acids. Appendix: A. Carboxylic acids. B. Lipids. Histochemical methods for lipids. Physical methods. Chemical methods. C. Proteins, amino acids, and products of protein metabolism. Phenols. Amino acid components of proteins. Amino acids. D. Urea. Dicarboxylic acids. E. Prosthetic groups. Phenolic substances, especially polyphenols. Adrenals. The catecholamine substances. Sulfhydryl (thiol) groups. F. Various unclassified organic substances. G. Pigments. Enzymes: Preparation of tissues for enzymatic reactions. Histochemical reactions for enzymes. I. Oxidative enzymes. Polyhydric alcohols. Oxidases. Peroxidases. Appendix: Dicarboxylic acids and isomeric forms. II. Hydrolytic enzymes. Microchemical methods for hydrolytic enzymes in general. Phosphatases. Alkaline phosphatases. Acid phosphatases. Leukocytes (phosphatase). Acid phosphatases. Phosphatases. Phosphorylase. Zymogenes (cholin). III. Sulfate. Esters. Alkaloids. Cholinesterase. The results of histochemical methods for ureterine, β -glucuronidase, Carbinol alcohols. Urease. Appendix: Buffers for use in histochemistry. Additional references. Author index. Subject index.

Note. A survey and summary of current information in the field of microscopic histochemistry. This field between histology and analytical chemistry or biochemistry is expanding as an independent discipline with its own theoretical background, methods, and special problems. In this volume the term "histochemistry" is used in the problem. The text outlines the basic methods of the identification of chemical substances in tissues. The methods of the identification of chemical substances in tissues are outlined directly through the microscope in terms of which the architecture is not greatly altered. The work is suitable for use as a textbook and as laboratory guide. Bibliographical references are given in footnotes with additional references in an appendix.

GORTNER, ROSS AIKEN

Outlines of biochemistry Third edition edited by Ross Aiken Gortner Jr and Willis Alway Gortner New York John Wiley & Sons, Inc., 1949 1078 p illus. 24 cm. \$8.50.

887

Contents (abridged): Part I. Colloids: The colloid state of matter. Hydrophobic colloids. Oxidation-reduction. Electrolytic phenomena. Gels and the water relationships of the hydrophobic colloids. The Gell-Donnan equilibrium. Part II. Proteins: The amino acids, the primary decomposition products of proteins. Protein structure and the possibilities of protein isomerism. Reactions of proteins with acids and bases. Protein denaturation. Biological reactions of the proteins. Part III. Carbohydrates and related substances: Metabolism of carbohydrates. The pectic substances. Lipids and the vitamins. Part IV. The lipids and essential salts. Part V. Pigments. Part VI. Biochemical regulation: Vitamins. The hormones. Enzymes. Author index. Subject index.

Note: (1927) An outline in the sense that it presents concisely wide ranges of biochemistry, this standard work is very useful both as an introductory survey of the current knowledge and as a guide to the literature. The treatment is essentially from the standpoint of chemistry rather than that of physiological systems. Both plant and animal biochemistry are included. In this edition the chapters on protein denaturation, carbohydrate metabolism and lipid metabolism have been added, and numerous revisions have been made in other parts. In spite of the extensive revisions, considerable recent research is not included, probably because biochemistry has now grown too large to be encompassed in a single volume so matter has condensed.

GREENBERG DAVID MORRIS compiler and editor

Amino acids and proteins, theory, methods, application. Springfield Ill. Charles C Thomas, 1951 950 p illus. 26 cm. \$15.00.

888

Contents: Properties of amino acids, by R. E. Howe. Methods for the determination of amino acids, by R. S. Glick. The preparation of amino acids and polypeptides, by A. Archer. The synthesis of labeled alpha amino acids, by J. C. Reid and R. M. Tolson. Isolation of amino acids, by M. S. Davis and L. B. Reichard. Classification, purification and isolation of proteins, by H. L. Fernald. Determination of the molecular size of proteins, by H. P. Lundgren and W. H. Ward. Amphipathic properties of amino acids and proteins, by D. M. Greenberg. Colloids of the purity of proteins, by C. H. Li. Chemical reactions of proteins, by H. Fraenkel-Conrat. Nutritional applications of the amino acids, by H. J. Alperstein. The chemistry of cellulose, by D. H. Campbell and F. Laxal. Biochemical applications of proteins and peptides, by D. M. Greenberg. The metabolism of amino acids and proteins, by H. T. Towner. Index.

Note: A collection of original monographs on several aspects of the amino acids and proteins which are currently of interest in research. In each paper the topic named in its title is treated concisely with extensive references to the related literature. The book is written on a professional level and is aimed specifically at graduate students and professional biochemists beginning work in the field. It is a product of the Biochemistry Laboratory of the University of California.

HARROW BENJAMIN

Textbook of biochemistry Fifth edition. Philadelphia W B Saunders Company 1950 609 p illus. 24 cm. \$6.50

889

Contents: Introduction. Carbohydrates. The lipids. Proteins. Microproteins and amino acids. Enzymes. Tissues. Vitamins. Synthesis in the plant kingdom. Digestion. Absorption. Absorption. Blood. Immunochromatography. Biochemistry. Biological nitrogen. Chemistry of respiration. Metabolism of carbohydrates. Metabolism of the lipids. Metabolism of proteins. Biological oxidations. Energy metabolism. Inorganic metabolism and water. Chemistry of the tissues. Urea. Hormones. The chemistry of the nervous system. Appendix. Index.

Note: (744*) A long established text which is used primarily in introductory college courses. It is shorter than some introductory texts but by writing concisely and presenting little historical information the author has managed to present a wide range of material. The fourth edition was published in 1946. Much research and numerous additions scattered throughout the text are evident.

In this fifth edition. The changes include a new chapter on biological nitrogen and new material on peptides, enzyme inhibitors, malnutrition, edema, steroids, the estradiol, and muscular contraction. The bibliography which constitutes an important part of the book have also been revised.

HAUROWITZ, FELIX

Chemistry and biology of proteins. New York Academic Press Inc. 1950 374 p. illus. 23 cm. \$6.80

890

Contents: Role of proteins in biology. Isolation, purification, and determination of proteins. Hydrolytic cleavage of proteins. Size and shape of protein molecules. Electrochemistry of proteins. Interaction of proteins with water. Internal structure of globular proteins. Albumins, gelatins, and other soluble proteins. Insoluble proteins (microproteins). Combinations of proteins with other substances. Conjugated proteins. Proteins with enzymatic properties. Proteins with hormone activity. Role of proteins in immunological reactions. Toxins (toxic proteins). The supply of amino acids for protein biosynthesis. Protein synthesis. Index.

Note: In this excellent book the author has presented proteins from the following standpoints (1) structure, (2) biological activity (3) biochemistry in the living cell. These aspects are well integrated, but wherever knowledge is available to explain the behavior or biochemistry of proteins on the basis of physical chemistry the author has presented it. The book is written on the graduate level. The treatment is complete but full of detail, and numerous references are made from the text to exceptionally precise bibliographies. The author is Professor of Chemistry in Indiana University.

MITCHELL, PHILIP HENRY

A textbook of biochemistry Second edition. New York McGraw Hill Book Company Inc., 1950 695 p. illus. 23 cm. \$7.00.

891

Contents: An introduction to biochemical reactions. Carbohydrates. Photosynthesis. Fats and related substances. Proteins and amino acids. Microproteins and nucleic acids. The vitamins. Enzymes. Digestion. Absorption and excretion. Blood and lymph. Chemistry of respiration and acid base regulation. Biological oxidation. Catabolism and energy metabolism. Carbohydrate metabolism. Metabolism of the lipids. Protein metabolism. Urea. Composition of foods; dietetics. The chemistry of animal tissues. Chemistry of the hormones. Chemotherapy. Author index. Subject index.

Note: (732*) The second edition of the textbook for undergraduate college students has been revised to include many significant developments since 1944. Important changes have been made in the chapters on the vitamins, enzymes, hormones, and the antibodies. Essentially the book offers an introductory study of metabolism and food chemistry and their interrelationships as seen from the points of nutrition. A knowledge of home organic and physical chemistry on the part of readers has been presupposed. The references given at the end of each chapter cite monographs and periodical literature through 1950 and has some helpful though brief annotations. The purpose of this bibliography is to summarize the state of literature in the field rather than to document the text. The book has 90 figures and 83 tables.

PARPAPT ARTHUR KEMBLE, editor

The chemistry and physiology of growth. Princeton Princeton University Press 1949 293 p. illus. 24 cm. \$4.50

892

Contents: Enzymes and the synthesis of proteins, by J. H. Northrop. Metabolism, morphology and growth, by F. A. Schmidt. Plant growth hormones, by K. V. Thimmon. Undifferentiated growth and growth factors, by K. Folkner. The kinetics of growth of microorganisms, by C. B. van Niel. Cellular metabolism and growth, by E. S. Gossens. Growth. Differential growth, by P. Wain. Problems of organization, by J. K. Kohnen. Morphologic abnormal growth, by C. F. Almond. The adrenal gland, regulatory factor by C. M. H. Long. Index.

Note: This book contains a revised form of papers that were first presented at a conference on "The Chemistry and Physiology of Growth" held in September 1944, as part of the celebration of the 40th anniversary of Princeton University. Each paper is in essence condensed monograph of the special topic named in its title and is supplemented by bibliography of the related literature. As a whole, the book provides an interesting summary of the present state of knowledge pertaining to growth. It is aimed chiefly to concisely with scientific education.

UMBREIT, WAYNE WILLIAM, AND OTHERS

Manometric techniques and tissue metabolism, by W W Umbreit, R. H. Burris, and J F Stauffer. Chapters on specialized techniques by P P Cohen, G A. LePage, V R. Potter, and W C. Schneider, and contributions by J A. Bain, D E. Green, H. A. Lardy, A. L. Lehninger, R. W. McGilvery, and R. Wennesland. Second edition. Minneapolis, Minn. Burgess Publishing Co., 1949. 227 p. illus. 29 cm. \$4.00 893

Contents: The Warburg constant volume respirometer. The "direct method" for carbon dioxide, carbon dioxide and bicarbonate. The "indirect method" of Warburg. Useful techniques in manometry. Design and calibration of Warburg. The differential manometer with special reference to its use in studies of photosynthesis. Special methods employing manometric and electrometric techniques. "Thompson technique" for the estimation of dehydrogenase activity. Methods for preparation and study of tissues. The homogeneous technique. Methods for the isolation of particulate components of the cell. Chemical methods. Manometric estimation of metabolites and enzyme systems. Methods for the analysis of phosphorylated intermediates. Preparation of physiologically important intermediates and metabolites. Index.

Note: This laboratory manual for beginning graduate students in biology provides clear descriptions of various methods used in the study of tissue metabolism. The methods described are ones which the authors have found satisfactory in their own laboratories, including both manometric and other methods and approaches. The methods described require equipment such as is likely to be found in a laboratory engaged in biological research, the chief of which are respiration chamber, and counter. In the second edition the authors have corrected errors, added new techniques, and have deleted some parts of the first edition. Bibliographical references, chiefly from the periodical literature, are listed at the end of each chapter.

WALKER, BURNHAM S., AND OTHERS

Biochemistry and human metabolism. By Burnham S Walker, William C. Boyd, and Isaac Asimov. With a foreword by John T. Edsall. Baltimore. The Williams & Wilkins Company. 1952. 812 p. illus. 24 cm. \$9.00. 894

Contents: Part I, Structure. Proteins and amino acids. Protein structure. Thymine chemistry. Fibers and the membrane. Part II, General. Enzymes. Hormones. Part III, Growth. Nucleoproteins and growth. Cancer. Reproduction and heredity. Part IV, Metabolism. Food and diet. Digestion. Carbohydrates and diabetes. Lipid metabolism and vitamins. Proteins and starvation. Electrolytes and water-sodium and blood. Respiration and acids. Heat and work. Nutrition and some of its determinants. Part V, Pathology. Vitamins and vitamin deficiency diseases. Infection. Part VI, Appendix. Abbreviations and symbols. Index.

Note: The special organization and subject content of this book are due to its having been planned for the instruction of medical students rather than students of biochemistry. Proteins, group of complex substances, are taken up first, also more space is given to such subjects as cancer than would be given in a general textbook. Most of the chapters deal with human biochemistry but there are incidental references to biochemical processes in lower forms of life. The chapters are accompanied by extensive references lists to which statements in the text are keyed. The authors are members of the faculty of the School of Medicine of Boston University.

WEST, EDWARD STAUNTON, AND WILBERT R. TODD

Textbook of biochemistry. New York. The Macmillan Company. 1951. 1345 p. illus. (part col d) 24 cm. \$12.00. 895

Contents (abridged): Gases and solutions. Electrolytic dissociation and the ionic state. General properties. The ionic state and membrane phenomena. Lipids. Carbohydrates. Proteins. Composition of tissues. Enzymes. Digestion of food. Deamination in the body. Chemistry of respiration, acid-base balance, and electrolyte and water

balance. Energy metabolism. The vitamins. Biological oxidation and reduction. Organic phosphates in metabolism—chemical aspects. Nutritional aspects of proteins and amino acids. Nutritional aspects of the lipids and the carbohydrates. The metabolism of the inorganic elements. Urine formation and composition. The hormones. Acid-metabolic aspects. Index.

Note: A textbook designed for use in introductory college courses in biochemistry. It is so written that it permits, based view of the subject and at the same time the main details of each aspect as necessary. Substantial lists of the pertinent literature are included. The authors are members of the faculty of the Medical School of the University of Oregon.

WITTCOFF HAROLD

The phosphatides. New York. Reinhold Publishing Corporation. 1951. 564 p. 24 cm. (American Chemical Society Monograph series No. 112. William A. Hamor editor) \$10.00. 896

Contents (abridged): Part I, The chemistry of the phosphatides. Monomers and classification of lipids. The structure of lecithin. The structure of the cephalin phosphatides. The structure of sphingomyelin. The structure of the ether phosphatides. The phosphatides and the chemical properties of the phosphatides. The physical chemistry of the phosphatides. Phosphatide complexes. The triphosphatides and the lecithinase. Synthesis of the phosphatides. Part II, The analytical determination of the phosphatides. Part III, Phosphatides from plant sources. Part IV, Phosphatides from animal sources. Part V, The biochemistry and physiology of the phosphatides. General aspects of lipid metabolism. The phosphatides as metabolic elements. The role of phosphatide hydrolytic products in metabolism. The role of the phosphatides in pathological conditions. Serological and sensitive fractions of the phosphatides. Part VI, The industrial aspects of the phosphatides: The manufacture of phosphatides. The industrial uses of phosphatides. Author index. Subject index.

Note: A comprehensive survey of the literature and current knowledge of the phosphatide-bearing lipids. The published literature is covered through 1949 and new data from papers published in 1950. The book is addressed to graduate chemists, and it is of particular interest to biochemists and to industrial chemists in the food industries. The author is associated with General Mills, Inc.

WOLTERINK, LESTER F., editor

The biology of phosphorus. By G. Evelyn Hutchinson, Harry G. Albaum, Harold C. Hodge, Jacob Sacks, and Henry A. Lardy. East Lansing, Mich. Michigan State College Press, 1952. 147 p. illus. 22 cm. Paper, \$2.00. 897

Contents: The biogeochemistry of phosphorus, by G. E. Hutchinson. The role of phosphorus in the utilization of plants. The incorporation of nucleophosphorus during growth, by H. G. Albaum. The dynamic role of the skeleton as shown by calcification, by H. C. Hodge. The significance of the phosphorylation cycle in intermediary metabolism, by J. Sacks. The role of phosphorus in metabolic control mechanisms, by H. A. Lardy.

Note: A collection of original papers which were first presented at a symposium held at Michigan State College in April, 1951. Each paper is immediately followed by a short monograph in which the current status of specific facets of the biological role of phosphorus is described and is related to the pertinent current articles. Accounts of recent developments, for example the use of radioactive isotopes in studying the biochemistry of the skeleton, are included. The papers are addressed to such persons as graduate biologists and professional biochemists. The book is a handy survey for which selection is not in need of review of the subject and its guide to the significant literature.

HORMONES AND ENZYMES

ADVANCES IN ENZYMOLOGY AND RELATED SUBJECTS OF BIOCHEMISTRY edited by F F Nord. Volume IX. New York. Interscience Publishers, Inc., 1949. 760 p. illus. 24 cm. \$9.95 898

Contents: Some aspects of invertase-like sugar reactions, by L. McGowan. Kinetics of biological reactions with special reference to

enzymic processes, by A. K. Szent-Györgyi. Photochemistry of enzymes, proteins, and vitamins, by A. D. McLellan. The nature of vitamins, by M. A. Linder and others. The mechanism of fertilization in mammals, by J. R. Kromann. Metabolism of sugars, by T. Mann. Nitrogen metabolism of higher plants, by H. K. Street. Chemistry and physiology of amino acids, by F. S. Dainton. Pathways of acid formation in Aspergillus niger and in related molds, by T. K. Walker. Principles of enzyme kinetics and cytochemistry, by D. Glick. Enzyme activity in human vegetable tissues, by M. A. Jodanis. Industrial microorganisms: Part 1, Fats, by A. Thoen. Author index. Subject index. Cumulative index of volumes I-IX.

— Edited by F F Nord. Volume x. New York Interscience Publishers, Inc., 1950 533 p. illus. 24 cm. \$9.50 898a

Contents: Blood clotting and related processes, by T. Astrup. Triphosphates-triophosphate reactions, by F. C. Hoppell. Phosphorus alkalies, by J. Katch and K. G. V. Thiel. Synthesis of dinitrochlorides with bacterial enzymes, by W. Z. Hassel and M. Doolittle. Some aspects of streptomycin and other streptogramin antibiotics, by M. G. Brak and K. Fellner. Problems des Streptococcus, by C. Martin and F. Lynen. Die Phosphatase des Streptococcus, by T. Beres. Chemical changes in the harvested tobacco leaf. Part II. Chemical and enzymic conversion during fermentation and aging, by W. G. Fraenkel. Acidification of hydrocarbons, by macroorganisms, by C. E. Ziegler. Author index. Subject index. Cumulative index of volumes I-X.

— Edited by F F Nord. Volume XI. New York Interscience Publishers, Inc., 1951 471 p. illus. 24 cm. \$9.75 898b

Contents: The nature of ecology and its role in biochemical processes, by H. Ostwald. Reactions at interfaces in relation to biological problems, by J. F. Danielli and J. T. Davies. Chlorophyll fluorescence and photosynthesis, by E. C. Wearn. Third group of biological importance, by E. A. Gorman. Bacteria. Pesticide enzymes, by H. L. Haverover and K. F. Jones. Enzymic synthesis of polyacetylenes—a biological type of polymerization, by E. J. Babin. The biological transformations of starch, by J. Post. Chemical investigations on silica, the specific products of silica, by A. Hall and R. Sankar. Some problems of pathological viruses in plants, by E. G. Gorman. Author index. Subject index. Cumulative index.

— Edited by F F Nord. Volume XII. New York Interscience Publishers, Inc., 1951 570 p. illus. 24 cm. \$9.75 898c

Contents: Osmoregulation in chloroplasts, by R. Hill. Mechanisms of fixation of carbon dioxide by heterotrophic and autotrophic, by M. F. Upton and H. G. Wood. Enzyme-esterase compounds, by R. Chace. The specificity of certain peptides, by E. L. Smith. The enzyme hydrolysis and synthesis of acetylcholine, by D. Macdonald and L. R. Wilson. The present status of starch chemistry, by H. E. Meyer and M. Cohen. Enzymes of starch degradation and synthesis, by F. Bercelli. Biological methylation, by F. Chabot. Reactions of borate with substances of biological interest, by C. A. Zella. Author index. Subject index. Cumulative index.

— Edited by F F Nord. Volume XIII. New York Interscience Publishers, Inc., 1952 413 p. illus. 24 cm. \$8.50. 898d

Contents: Localization of enzymes in cytoplasm, by H. Heller. Some aspects of the application of tracers in personality studies, by H. H. Gungl. The isoenzymic isozymes of enzymes (adaptation isoenzymes), by J. Mann and M. Cohen. Genetic formation of gene structure and gene action, by G. Pontecorvo. Adenosine triphosphates and the structural proteins in relation to enzyme reactions, by D. M. Macdonald. Hydrocarbons, by E. Meyer and M. R. Koppert. Certain aspects of intermediary metabolism of glucose, triglycerides, and glutathione, by H. Wacker. Biochemical inhibition of cytochrome, by A. E. Ball and E. J. J. Jones. The comparative biochemistry of nitrogen fixation, by F. W. Wilson. Author index. Subject index. Cumulative index of volumes I-XIII.

Note: (734-717) These volumes conclude series begun in 1941. The authors are recognized authorities in their fields, and they have written for the information of graduate scientists working in biochemistry or related fields. Each of the chapters is richly illustrated, digested and is accompanied by long lists of references.

EDSALL, JOHN TILESTON, editor

Enzymes and enzyme systems: their state in nature. Cambridge, Mass. Harvard University Press 1951 146 p. illus. 22 cm. \$3.00 899

Contents: The organized respiratory activity of isolated liver mitochondria, by A. L. Lehninger. The cytochrome system, by David R. Green. Aspects of the specificity and mode of action of some peptidases, by Emil L. Smith. The reactions of horseradish peroxidase with various substrates, by Andrew C. Minkley. The reaction of ferrocyanide with peroxidase and peroxidase, by Richard Chance. The state in nature of proteins and protein enzymes of blood and liver, by Edwin J. Cohn and others.

Note: The first volume of a new series entitled "Monographs of the University Laboratory of Physical Chemistry Related to Medicine and Public Health, Harvard University." It contains papers which were first presented at a symposium held in 1949. The papers reveal several common lines of approach to thinking on fundamental problems by workers in widely separated laboratories. Each paper is illustrated and has a corresponding bibliography appended. The book is of interest to graduate biochemists and other scientists concerned with enzymes.

EMERSON, CLIFFORD WALTER, editor

Hormone assay New York Academic Press, Inc., 1950 556 p. illus. 24 cm. \$10.00. 899a

Contents: Statistical methods, by C. W. Emerson. Insulin, by K. L. Smith. Parathyroid hormone, by R. H. Thompson. Metabolic and chemical assay of adrenaline, by G. R. West. Posterior pituitary hormone, by R. H. Thompson. Biological assay of the melanophore stimulating hormone from the pituitary, by F. W. Lindberg and H. W. Warden. Gonadotropins, by R. H. Thompson. Adrenocorticotrophic, by F. A. Gronow and others. Thyrotrophic hormone, by C. W. Turner. Lactogenic hormone, by J. Macleod and C. W. Turner. Mammary lactation, by C. W. Turner. Growth hormone, by F. A. Gronow and others. Androgens, by R. L. Derflinger. Adrenal cortical hormone, by R. L. Derflinger. The chemical assay of steroids of the androgens and adrenocortical hormone groups, by R. K. Callow. Estrogens, by C. W. Emerson. Hormones of the corpus luteum, by C. W. Emerson. Chemical assay of estrogens and progesterone, by G. A. D. Hershberg. Thyroidal substances, by R. F. Ekins and C. W. Turner. The chemical assay of thyroxine and other substances with thyroidal activity, by R. F. Ekins. Index.

Note: A full treatment of methods to biochemists and others whose professional work requires knowledge of practical methods or of the current state of development of the field. Each of the chapters is essentially a compact monograph based on the author's own work and the published literature. In the first chapter the applications of statistical methods to hormone assays is outlined; but, as the author of the work points out, the study of many hormones has not yet reached the point where high level of statistical treatment is possible in papers such as make up this book.

GORDON EDGAR STILLWELL, editor

A symposium on steroid hormones. Madison The University of Wisconsin Press, 1950 396 p. illus. 24 cm. \$6.50. 900

Contents: The steroid—a historical review, by G. F. Maclean. Review of research on the chemistry of the steroids, by L. F. Fieser. Biosynthesis of steroids, by K. Block. The metabolism of steroid hormones in humans, by K. Decker and E. Lieberman. Renal table Growth and fattening of animals, by E. A. Adell and others. Renal table Metabolism and secretion of steroids, by H. L. Mason and others. Excretion of adrenal metabolites in man in health and disease, by R. H. Veenendaal. The mechanism of the protein synthesis of testosterone precursors, by C. D. Kachalsky. Metabolic effects of adrenal steroids, by D. J. Lapin. Effects of adrenal steroids on blood cells and on certain aspects of protein metabolism, by A. White. Renal table. The relation of structure to function of steroids, by A. L. White and others. The effects of steroids on protein synthesis, by C. B. Higgins. The relationship of steroid hormones to cancer clinical aspects, by G. H. Thomsen. Renal table: Lactation and reproduction in animals, by E. A. Adell and others. Enzyme systems involved in the metabolism of androgens in the liver, by L. T. Sweeney. Factors influencing endometrial growth in monkeys (Macaca mulatta), by F. L. Howe. Hormones and behavior with special reference to birds and the mechanisms of hormone action, by H. K. Callow. Steroids and pituitary hormones, by R. G. O'Leary and I. C. Jones. Some isolated hormonal factors in the control of many physiological processes in vitro, by J. J. Miller and R. A. Hensley. The metabolism of corticosteroids, by E. E. Kozlowski.

Jr. Genetic control of sex determination and differentiation in vertebrates, by R. E. Humphrey. Steroid hormones and sex differentiation, by L. V. Dumas. Recommendations of the influence of genetic factors and steroid hormones in sex differentiation, by C. R. Moore.

Note: This book contains the major papers that were presented at a symposium held at the University of Wisconsin in 1949. The papers were written by leaders in the investigation of the steroids or in their applications in animal husbandry, clinical medicine, etc. Most of the papers are accompanied by extensive lists of references. The book lacks an index.

LAURENTIAN HORMONE CONFERENCE

Recent progress in hormone research. The proceedings of the Laurentian Hormone Conference, edited by Gregory Pincus. Volume VII. New York: The Academic Press Inc. 1952. 527 p. illus. 24 cm. \$9.50 900a

Contents: Part I. Pituitary hormones. Chemistry of corticosteroids, by E. R. Astwood and others. Purification of the pituitary adrenocorticotrophic hormone, by M. L. DeRubeis and others. Regulation of ACTH secretion, by C. M. H. Long. Aspects of pituitary-mammary gland relationships, by R. J. Folley. Part II. Sex cycles. The relationship of the nervous system to the onset of gonadotropin and the regulation of the sex cycle, by J. K. Meehan and others. Some physiological and medical aspects of the gonadal cycle of domestic animals, by F. J. Gossamer. Endocrinology and related phenomena of the human menstrual cycle, by O. W. Smith and G. V. Smith. Part III. Aspects of steroid hormone chemistry and physiology. Studies on the biosynthesis of adrenal cortex hormones, by W. J. Hanes. Studies of the susceptibility and antibody response of functions of the pituitary adrenocortical secretion, by T. F. Dougherty. A comparison of the histological changes induced by experimental hypoadrenocorticism and Addison's disease, by R. L. Baker. Estimation, hormones and hyperactivity, by R. Rose. Part IV. Hormones and metabolism. Hormonal factors which regulate the metabolism of sugar fat to the liver, by L. L. Levin and R. K. Farber. The physiology of diabetes mellitus in man, by J. A. Mackay. Some clinical aspects of adrenal cortical and lipid metabolism, by C. W. Lloyd. Author index. Subject index.

Note: (1952-1953) The present volume of this valuable series contains the original papers presented at the Laurentian Hormone Conference in September, 1951. The papers are devoted chiefly to the results of recent investigations, but each one of them includes also information from the pertinent literature. They are addressed to professional workers in biochemistry, endocrinology and physiology. The discussions of the Conference are included.

PINCUS GREGORY, AND KENNETH V THOMANN editors

The hormones physiology chemistry and applications. Volume II. New York: Academic Press, Inc. 1950. 792 p. 23 cm. \$13.50 901

Contents: The physiology of ovarian hormones, by G. Pincus. Physiology of the thyroid, by R. I. Dorfman. Physiology of the adrenal cortex, by R. L. Noble. The chemistry and physiology of the thyroid hormone, by W. T. Salk. The control of thyroid activity by W. T. Salk. Physiology of the gonadotropins, by E. M. Evans and M. K. Saperstein. The hypophysis and diabetes mellitus, by L. L. Berman and H. M. Evans. Hormones of the posterior pituitary, by H. Wadga and F. W. Landberger. Chemical control of hormone activity: A. Acetylcholine, by D. Macdonald. B. Adrenaline and noradrenaline, by H. Fleisch. C. Neurotransmitters in lower vertebrates, by O. H. Parker. Chemical endocrinology, by H. Freeman. Author index. Subject index.

Note: (1951) Volume of this notable addition to the literature of biochemistry appeared in 1948. Volume concludes the work. Each of the papers is a critical monographic treatment of the specific topic treated in its title. Keyed references to original publications are incorporated in the text, and each chapter is accompanied by corresponding list of references to related literature. The authors are themselves leaders in biochemical research, and their papers are addressed primarily to advanced students and professional workers in the same field. Chemical, physiological, and clinical aspects are all covered, hence the work is of interest not only to biochemists but also to physiologists and medical men, particularly endocrinologists and pharmacologists.

SUMNER, JAMES BATCHELLER AND KARL MYRBACK, editors

The enzymes, chemistry and mechanism of action. New York: Academic Press, Inc.,

1950-52. 2 v. in 4 parts. illus. 24 cm. Volume I, part I, \$14.50 Volume I, part II, \$13.50. Volume II, part I, \$14.80 Volume II, part II, \$14.00 901a

Contents: Volume I, part I: Introduction, by J. B. Sumner and K. Myrback. Physical chemistry and chemical kinetics of enzymes, by K. A. Mosley-Hughes. Enzyme specificity, by R. H. Hirsch. Enzymes in relation to growth, vitamins, hormones, vitamins, and chemotherapeutic drug action, by M. G. Sorensen and others. Chemical foundations of enzyme chemistry, by A. L. Demko. Modern aspects of enzymic adaptation, by S. Spiegelman. Enzyme inhibition, by L. Masoro. Enzymes and immunology, by J. R. Marshall. Enzymes hydrolyzing fats and esters, by R. Amos and M. Jermolova. Acetylcholine esterase and cholinesterase, by K. Z. Aronson. Phosphatases, by J. R. Koster. Metabolism and its enzymic breakdown, by R. L. Berman. Sulfatases, by C. Freeman. Lactamase, by C. Nierberg and J. Masoro. α -D-glucosidase, by A. Guttmann. α -glucosidase, by R. Vahel. Hydrolysis of polypeptides, monosaccharides, and disaccharides, by R. Vahel. α -glucosidase, by W. H. Pflaum. Amylase and the hydrolysis of starch and glycogen, by K. Myrback and O. Neuffer. Volume I, part II: Cellulose, hemicellulose, and related enzymes, by W. Pflaum. Pectic enzymes, by Z. I. Kertesz. Enzymic hydrolysis of saccharopolysaccharides, by W. H. Pflaum. Proteolytic enzymes, by R. L. Berman. Urease, by J. R. Sumner. Arginase, by D. M. Greenberg. Hydrolysis of acid anhydrides and amide acid anhydrides, by C. A. Kline. Alkaline phosphatases, by M. Laskowski. Phosphatases (phosphatase) by F. Laskowski. Nucleolytic enzymes, by M. Laskowski. Enzymes in essential components of bacterial and animal cells, by J. A. Zeller. Phosphorylase-phosphorylase and synthesis of nucleotides, by W. K. Huxley and others. Transaminase, by P. P. Cohen. Transaminase, by T. L. Berman. Enzymes and nucleotides, by W. E. Sargent. Histidine and proline, by R. S. Hirsch. Enzymes, by O. Kierstead. Fumarate and succinate, by S. Ochoa. Dehydrogenase, by C. Freeman. Aspartate, by J. Kertesz and A. L. Vetter. Carboxylic anhydrides, by F. J. W. Ruppel and A. M. Chalk. Author index. Subject index. Volume II, part I: Theory of catalytic reduction, by L. Michaelis. Thermodynamics and mechanism of the phosphate bond, by N. G. Kaplan. Transphosphorylation enzymes of fermentation, by S. P. Colowick. Dehydrogenase of aldehyde phosphorylation, by H. H. Kautsky. Aldehyde and isomerase, by O. Meyerhof. Keto acid decarboxylase, by R. V. Vandenheuvel. Amino acid decarboxylase, by O. Schöten. Deaminase, by C. Freeman. Cofactor-dehydrogenase and α and β isomerase, by F. Schick. Succinate dehydrogenase, by F. Schick. Hydrogenase and hydrolytic, by W. W. Umbreit. Ferments containing enzymes, by E. H. Threlk. The iron-containing enzymes, A. Cytochrome, by R. G. Threlk. The iron-containing enzymes, B. Cytochrome and peroxidase. Cytochrome, by H. Threlk. The iron-containing enzymes, C. The cytochrome oxidase and mechanism of action of the hydroperoxide, by J. Chazotte. Copper oxidase, by C. R. Dutton and W. B. Topley. Oxidation of organic acids, by H. A. Krebs. Oxidation of amino acids, by R. A. Zeller. Lipidase of non-aqueous-ferment, by R. T. Hulse and S. Bergstrom. Enzymes in hemostasis, by K. H. Harvey. Oxidation of organic sulfur, by C. Freeman. Amino acid hydrolysis, respiration, and the Pasteur effect, by F. D. Collins. Yarnet and acid fermentation, by F. P. Marz and S. Dikman. Volume II, part II: Bacterial fermentation, by S. R. Kline. Enzymes in detoxication, by F. Berman. Graft enzymes, by H. A. Krebs. Peptide bond synthesis, by P. P. Cohen. Synthesis of nucleotides, by S. P. Colowick. Oxidative metabolism - choline acetylase, by K. Z. Aronson. Enzymic mechanism of autophosphorylation, by C. E. S. S. Enzymic mechanism of carbon dioxide fixation, by C. Ochoa. Carboxylate-ferment conversion, by F. L. Berman. Phosphorylation in green plants, by W. E. Loomis. Bacterial phosphorylation, by R. M. Kautsky. Tissue phosphorylation, by A. L. Vetterman and H. Kautsky. Tissue phosphorylation, by J. P. Greenstead and A. M. Kautsky. Enzyme technology, by A. F. Lemley and others. Author index. Subject index.

Note: This comprehensive and valuable addition to the literature of biochemistry written on the graduate and professional level. The enzymes are monographic in form and have been prepared by specialists from the study of each enzyme and biochemical and other research organizations in the United States of America and other countries. Numerous footnote references constitute an integrated bibliography of the subject. Indexes for each volume are included in parts two, but no index for the set as a whole is provided.

TAUBER, HENRY

The chemistry and technology of enzymes. New York: John Wiley & Sons, Inc., 1949. 550 p. illus. 23 cm. \$8.50 902

Contents (abridged) Part I. The chemistry of enzymes. *Katzenberg, Carbohydrates, Phosphorylation and related enzymes. Mucosinase, and chitinase, and deaminase. Proteolytic enzymes. Iron-porphyrin enzymes. Oxidases containing copper. Dehydrogenases containing coenzyme and iron. Peroxidases. Decarboxylating and phosphotransferase enzymes. Hydrolases, isomerases, and other enzymes.* Part II. The technology of enzymes: Yeast—production and selection. Production of ethyl alcohol by fermentation. Mold fermentation. Bacterial fermentation. The production of antibiotics. Enzymes for medical use. The role of enzymes and proteins in bread making and the production of milk syrup. Enzymes in dairy products. Enzymes in the meat, egg, vegetable, and fruit industries. Pectin-decomposing enzymes and their use in the fruit juice, wine, and jelly industries. Enzymes in textile, paper and related industries. The use of enzymes in the manufacture of leather. Enzymes in other industries. Microbiological methods for the estimation of vitamins and related acids. Author index. Subject index.

Note: (1940, 1941) In this comprehensive work the author has combined, in thoroughly revised form, the material found in two of his earlier works: *Enzyme chemistry* New York, 1937 and *Enzyme technology*, New York, 1941. It covers an professional field and is designed primarily for the use of physiological and biological chemists, including those employed in industry. It provides an up-to-date summary of the chemistry of practically all known enzymes, and a description of their industrial production methods and present-day uses.

VITAMINS

THE ASSOCIATION OF VITAMIN CHEMISTS INC

Methods of vitamin assay Prepared and edited by The Association of Vitamin Chemists Inc. Second edition revised and supplemented. New York Interscience Publishers, Inc. 1951 301 p. illus. 24 cm. \$5.50 903

Contents: Sampling for vitamin analysis. Vitamins A, C, E, K, and B. Thiamine. Microbiological assay techniques. Riboflavin. Nicotinamide acid. Vitamin B₆. Folic acid. Biotin. Vitamin B₁₂. Methods for the vitamins. Use of check samples in control of vitamin methods. Index.

Note: (1951) The new edition of this practical manual for laboratory analysts differs from the original edition in having been revised throughout and in including assays for several members of the vitamin B complex, namely pantoic acid, pyridoxine, folic acid, biotin, vitamin B₁₂, for which methods were not described in the first edition. As in the earlier edition, the scope of the book is limited to methods which have been successfully applied by several members of the various committees of the sponsoring Association. The chapters, "Methods for other vitamins" which described those vitamins for which specific methods have not been evolved, has been amended to provide the analyst with leads for selecting procedures available to his work, and brief discussion is presented of the relative merits of the various published methods and their application to different types of samples. Selected bibliographical references appear at the ends of the chapters.

DEUEL HARRY JAMES JR.

The lipids their chemistry and biochemistry Volume 1 Chemistry New York Interscience Publishers Inc. 1951 982 p. illus. 24 cm. \$18.50 904

Contents: General characteristics and classification of lipids. The chemistry of fatty acids and glycerol. The chemistry of neutral fats. Waxes, higher alcohols including sterols, isoprenes, glyceryl ethers, colored fats, and hydrocarbons. Chemistry of the phospholipids and carotenoids. Carotenoids and related compounds. Distribution, properties, and chemistry of the vitamins A, D, E, K. Distribution, properties, and chemistry of the vitamins B group. Distribution, properties, and chemistry of the vitamins K group. Author index. Plant and animal sources of lipids. Subject index.

Note: A comprehensive, well documented treatise on an abundant family of natural substances. Essentially the work is an expert digest of the published literature including the author's own papers. Enzyme are not been taken with the biological and ecological aspects and with the literature references. References are printed as footnotes on the pages where the related text occurs. The names of the authors of the papers cited are listed in the 33 page author index. The second volume, which will complete the work, will be devoted to the biochemical and nutritional aspects of the lipids.

GYÖRGY PAUL, editor

Vitamin methods. New York Academic Press, Inc. 1950-51 571 p. 24 cm. \$11.00. 905

Contents: Volume Physical methods of vitamin assay by E. T. Butler. Chemical methods of vitamin assay by F. György and E. H. Rabin. Microchemical methods, by G. A. Boney. Microbiological methods in vitamin research, by E. K. Sank. The use of optical instruments in vitamin analysis, by E. H. Rabin. References. Author index. Subject index. Volume II. General aspects of small animal experiments, by N. B. Grollman. The animal vitamin assays, by C. E. Ross and F. György. Laboratory diagnosis of human vitamin deficiencies, by J. H. Jones. Clinical signs of malnutrition, by M. Jelliffe. Statistical methods in vitamin research, by C. E. Rhee. Supplement to volume Physical methods of vitamin assay by E. T. Butler. Chemical methods of vitamin assay by F. György and others. Microbiological methods in vitamin research, by L. D. Wright and others. Author index. Subject index.

Note: A work of fundamental significance to professional workers in medicine, pharmacy food industries, and other fields in which vitamins are of importance. The emphasis is on analysis and assay but wide range of related information which is of importance to research workers is also included. Each part is essentially a monograph of its particular topic and is supplemented by a long list of related literature.

HARRIS PHILIP LESLIE, and WILMA KU JAWSKI editors

Annotated bibliography of Vitamin E 1940 to 1950 New York The National Vitamin Foundation, Incorporated, 1950 184 p. 27 cm. (The Research Laboratories of Distillation Products Industries, Rochester N Y Division of Eastman Kodak Company) Paper \$3.00 906

Contents: Occurrence and distribution in nature. Determination. Chemistry. Physiology and pathology. Pharmacology. Nutrition and metabolism. Medical and therapeutic use. Veterinary use. Author index.

Note: There are 1662 references in this bibliography classified under the headings given in the above contents. There are sub-headings under each of the major headings, for instance under "Nutrition and metabolism" the list is subdivided as follows: "Growth and longevity. Nutrition. Pharmacology. Physiological metabolism. Effect on metabolism. Enzymes. Some entries are not associated but most of them are supplemented by an association of from one to five paragraphs in length.

JUKES THOMAS H.

B-vitamins for blood formation. Springfield, Illinois Charles C Thomas 1952 113 p. 22 cm. (American lecture series. Publication no 146 A monograph in American lectures in pharmacology edited by Chauncey D Leake) \$4.00 907

Contents: Introduction—the megaloblastic anemia. B vitamins in the megaloblastic anemia of pregnancy and infancy. Folic acid—pteroylglutamic acid. The vitamin B₁₂ group of compounds. The intrinsic factor. Antagonists of pteroylglutamic acid. The cytochrome factor. Metabolic reactions involving folic acid and vitamin B₁₂. Vitamin B₁₂ deficiency and anemia. Index.

Note: A brief review of the chemistry and physiology of the B-complex vitamins which are used in combating certain types of anemias. The book is concerned specifically with pteroylglutamic acid, the vitamin B₁₂ group, and the intrinsic factor each of which is discussed as to its properties, physiological effect, and therapeutic value. Extensive bibliographies are included. The author is associated with the Lederle Laboratories Division of the American Cyanamid Company.

VITAMINS AND HORMONES ADVANCES IN RESEARCH AND APPLICATIONS. Edited by Robert S Harris and Kenneth V Thimann. Volume IX. New York Academic Press Inc., 1951 395 p. illus. 24 cm. \$8.00 908

Contents. The role of vitamin B_{12} in metabolic processes, by T. H. Jukes and R. L. R. Stokstad. Functions of biotin in enzyme systems, by H. C. Lickstein. The functions of B-vitamins in the biosynthesis of porphyrins and pyrimidines, by W. Shive. Antimetabolites of nucleic acid metabolism, by L. D. Wright. The effect of vitamin deficiencies on adrenocortical function, by A. V. Morgan. Relationship between estrogens and enzyme activity, by W. H. Fishman. The synthesis and metabolism of radioactively-labeled steroids, by O. H. Tversky. Effects of cortisone and Δ^4 CTH, by R. O. Sorenson. Urinary gastric secretory depressants (meglumine) by M. H. Friedman. Author index, Subject index.

Note. (748*) The present volume of this well-known series in biochemistry contains the papers listed above. As in previous issues, each paper is essentially a monographic survey of the current knowledge of its specific topic, supplemented by comprehensive literature references.

WILLIAMS, ROGER JOHN AND OTHERS

The biochemistry of B vitamins by Roger J Williams Robert E Eakin Ernest Beerstecher Jr., and William Shive. New York

Reinhold Publishing Corporation, 1950 741 p 23 cm. (American Chemical Society monographs William A. Hamor, editor No. 110) \$15 00 909

Contents (abridged) Section A. Characterization, distribution, assay and bioassays of B vitamins. Distribution of B vitamins. Assay methods. Bioassays of the B vitamins. Section B. The catalytic functions of the B vitamins. Section C. The role of the B vitamins in animal and plant organisms. Methods of assessing B vitamin requirements. Factors influencing B vitamin requirements. B vitamin deficiency states. Section D. The comparative biological activities of the B vitamins and related compounds: β -aminobenzoic acid, biotin. The folic acid group. The nicotinic acid group. Pantoic acid. The vitamin B_6 group. Riboflavin. Thiamine. Biological activities of other nutritional factors of doubtful status. Index.

Note: A substantial contribution to the literature of vitamins. Essentially it is a critical digest of the published literature of the field. Statements in the text are keyed to the extensive lists of original sources which accompany each chapter. As is characteristic of this series, the authors are all recognized experts, and the work is addressed to persons with scientific training and interests. It is of interest to professional workers in many fields, including biochemistry, pharmacology, nutrition, and medicine.

BACTERIOLOGY

GENERAL

AMERICAN PUBLIC HEALTH ASSOCIATION

Diagnostic procedures and reagents techniques for the laboratory diagnosis and control of the communicable diseases. Third edition. New York American Public Health Association Inc. 1950 589 p. illus. (part col'd) 24 cm. \$6.00 910

Contents: Culture media, by L. C. Col. P. R. Campbell. The smears, by G. M. Blackmore. The pneumococcus, by K. Gordon. The meningococcus (*Neisseria meningitidis*), by S. R. Brachman. The gonococcus (*Neisseria gonorrhoeae*), by C. M. Carpenter. *Mycoplasma pneumoniae*, by P. Kaudrich and others. The diphtheria bacillus (*Corynebacterium diphtheriae*), by M. F. Probstler Jr. The tubercle bacillus (*Mycobacterium tuberculosis*), by M. M. Cummings. *Salmonella* and *Shigella*, by M. B. Coleman. *Brucella* (*pasteurii* fever), *Brucella abortus*, *Brucella melitensis*, and *Brucella suis*, by R. E. Brennan and D. E. West. *Typhus* (*Rickettsia typhi*), by G. D. Stephens. The chlamydia (*Chlamydia trachomatis*, *Chlamydia psittaci*), by C. V. Eastman. The laboratory diagnosis of venereal, by W. A. Hamm. The laboratory diagnosis of plagues, by W. A. Hamm. *Bordetella pertussis*, by J. F. Mahoney and M. R. Leach. *Chlamydia* and *granulosa inguinale*, by E. S. Sankharia. *Salmonella* *typhimurium*, by G. A. Stuart. *Legionella infectio* (*Wad* disease), by A. R. Kinsley. Bacterial food poisoning, by G. M. Dack. The *Salmonella* *paratyphi* of man, by A. Watson. Laboratory diagnosis of *Salmonella* and *proteus*, by H. W. Beers. *Trichinella*, by M. B. Shandell. *Pathogenic fungi*, by M. F. Conant. *Blood cultures*, by G. Q. Bess. *Technic of RH testing*, by P. Levine and M. Wood. *Antimicrobial assays—bacterial suspensions and heat distributions in body fluids*, by C. R. Felt. Index.

Notes: (1950) A survey of the manuscript received and standard procedure. Each of the manuscript papers was presented by one or more completed specimens and was evaluated in manuscript by experts serving as referees. In the present edition features of the chapters are new and those carried over from the preceding edition have been slightly or extensively revised as required. In this edition, the papers are accompanied by extensive literature references and in some instances by illustrations.

ANNUAL REVIEW OF MICROBIOLOGY Volume 6

Charles E. Clifton, editor Sidney Raffel, associate editor H. Albert Barker associate editor Stanford University California Annual Reviews Inc. 1952 492 p 23 cm. \$6.00. 911

Contents: Metabolism of microorganisms, by H. C. Lickstein. Metabolism of microorganisms, by J. L. Steele. Genetics of microorganisms, by R. Kaper. The cytoplasmic membrane, by H. L. Jones. The bacterial cell envelope, by K. J. Bull and C. R. Pridmore. Classification and nomenclature of viruses, by G. H. Anderson. Identification of virus infections in plant tissue, by J. H. Jones. *West Nile* virus in plants, by M. G. Chikvashvili and R. A. O'Neill. *Bull* microbiology, by A. G. Leach. The characteristics of microorganisms, by E. L. Smith and R. V. Jones. Homologous recombination in relation to host cell-virus interaction, by F. M. Burnet. Influence of age on susceptibility to virus infections with particular reference to laboratory animals, by M. M. Blod. Transplantation and microorganisms, by D. W. Brown. Metabolism of *Salmonella*, by G. M. Coleman. Recent advances in the taxonomy of yeasts, by L. J. Wickham. Bacterial virus, by W. B. Price. The demonstration of immunological substance, by O. Maize and M. K. Jones. Association between microorganisms and higher plants (*mycorrhiza*), by J. L. Harley. *Antibiotics*, by W. M. M. Kirby. The mode of action of chemotherapeutic agents, by H. W. Johns. Biological activities of antibiotic substances, by W. Shiba. Index. Notes. (771) The present volume of this useful series contains papers as noted above. Each of these completely revised papers of recent literature, but instead of showing a comprehensive survey of the authors have selected aspects not adequately covered in other

reviews or have given prominence to substance of particular current interest. The typical paper however is carefully written research based on laboratory in which citations of 1950 and 1951 publications are predominant. The names of authors of all the cited papers are included in the author index and the detailed subject index covers the contents of the book volume.

BRUCELLOSIS. A symposium under the joint auspices of National Institutes of Health of the Public Health Service, Federal Security Agency United States Department of Agriculture, National Research Council, September 22-23 1949 Bethesda, Maryland. Washington American Association for the Advancement of Science, 1950 271 p. illus. 24 cm. o.p. 912

Contents: Comments on the early history of human brucellosis, by A. C. Evans. Some aspects of the physiology of *Brucella abortus*, by S. H. Boyer. Variations in the genus *Brucella*, by W. Brown. The chemistry of *Brucella abortus*, by C. S. Fennell. The pathogenesis and pathology of experimental brucellosis, by A. L. Steele and D. Anderson. Immunology of brucellosis, by E. S. Kober and R. J. Silvers. Bacteriologic tests in brucellosis, by M. R. Lurie and D. T. Aronson. The epidemiology of brucellosis, by C. F. Jordan. Laboratory tests in brucellosis, by M. R. McCallister. The isolation of *Brucella* from blood clots, by R. S. Danner and E. Albright. The *Brucella* *abortus* time test, by M. H. Rappaport. Clinical aspects of human brucellosis, by W. W. Spink. Therapy of brucellosis in man, by C. W. Knott. Chemistry of experimental brucellosis in guinea pigs, by R. R. Cole and C. L. Larson. *Brucella* in cattle, by A. C. Macleod. *Brucella abortus*, by L. M. Hinchings. *Brucella* in calves other than cattle or swine, by W. L. Boyd. *Brucella* in *Parvulus* *Elvis*, by P. Martin-Owen. *Brucella* in Canada, by R. Corbitt and A. F. W. Part. *Brucella* as viewed by the rural practitioner, by F. M. Anderson. The control of brucellosis in animals by the use of vaccines, by J. Trueman. The control of brucellosis in animals: comparing test and slaughter methods, by H. L. O'Brien. Federal aspects of the control of brucellosis, by E. V. Brown. A summary of the present knowledge of brucellosis, by M. R. Lurie. **Notes.** A book of original papers prepared especially for this symposium. The conference and the book both served to bring together contributions from microbiologists in medicine, veterinary medicine, and public health. Most of the papers are supplemented by extensive bibliographies, and the names of the authors of the cited papers have been indicated in the author index. Although not systematic listing, the book does contain wide array of facts.

BUCHANAN ROBERT EARLE, AND ESTELLE DENIS BUCHANAN

Bacteriology Fifth edition. New York The Macmillan Company 1951 678 p. illus. 22 cm. \$6.00 913

Contents (abridged): The beginning of bacteriology. Five subgroups are named and described. Bacteria. Their morphology and classification. The viruses, their characteristics and classification. The protozoa, their morphology and classification. The molds, their morphology and classification. Inheritance, variability and mutations of microorganisms. Distribution of microorganisms. Sterilization. Preparation and use of culture media. Study of growth characters in pure cultures. Methods of observation of certain physiological characters. Methods of microscopic examination. Effects of physical agents on microorganisms. Physical effects produced by microorganisms. Effects of chemical environments upon microorganisms. Some modernizations of chemical changes produced by microorganisms. Chemical changes of economic significance produced by microorganisms. Microorganisms in water and sewage. Microorganisms in soils. Microorganisms as symbionts and commensals in animals. Resistance to disease—immunology and antibody. Disease-producing microorganisms. The pathogenic fungi. The plant world group. Phages group. The isolated group of microorganisms. The lowest level—other group. The chlamydiae group. Group of plant pathogens. The

Facts and theories concerning the mechanism of the styryl alcohol fermentation. *Brewing, Wine*. The distilled industries. Production of yeast and its products. The glycerol fermentation. The acetone-butanol fermentation. The acetone-glucose fermentation. The butanol-lipopoly alcohol fermentation. The acetic acid bacteria and some of their biochemical activities. The production of lactic acid by fermentation. *Sauerkraut, Pickles*. Some fermented milk products. *Cheese*. The propionic acid fermentation. The production and properties of 2,3 butanedione. Some minor bacterial activities with industrial implications. *The maida*. The citric acid fermentation. The gluconic acid fermentation. The fumaric acid fermentation. The malic acid fermentation. The lactic acid fermentation. The production of lactic acid by maida. *Miscellaneous products by maida*. The production of lactic acid by some fungi and products. The production of lactic acid by yeasts. *Chemical industries*. The use of yeast. Antibiotics. Textile microorganisms. The microbiology of wood. *Appendices*. *Detergency detergents and stain-removal*. The treatment and disposal of industrial and commercial wastes. *Index*.

Note: (1941) This work is both a text for college students and a very complete introductory course in such fields as bacteriology and organic chemistry and a reference guide for industrial chemists and other technical personnel in industries making use of fermentation. The new edition covers the advances in the field since the publication of the first edition in 1940. Extensive portions were rewritten and new chapters were added, covering the new processes of saccharification, the production and properties of 3,3-hexanedioic, the furanic and related fermentation, etc. There are now tables in most illustrations and the volume is almost 400 pages longer.

SPOFFER, HERNAN AUGUSTUS AND OTHERS

Fatty acid antibacterials from plants. By H. A. Spoehr, J. H. C. Smith, H. H. Strain, H. W. Milner and G. J. Hardin. Carnegie Institution of Washington, Division of Plant Biology. Stanford California. Washington, D. C. Carnegie Institution of Washington, 1949 67 p. illus 25 cm. (Carnegie Institution of Washington, Publication 586) Paper \$0.50 Cloth \$0.75 920

Contents: Introduction. The large-scale culture of *Chlorella pyrenoidosa*. The extraction of anticholesterol material from culture solutions. *Chlorella* cells as a source of anticholesterol material. Release of the fatty acids anticholesterol from *Chlorella* cells. Anticholesterol material from other plant sources. Anticholesterol activity of fatty acids. Anticholesterol activity of the fatty acids obtained from the fruits of the *Chlorella* plant.

Role. The kinetics of research project which had as its primary objective the kinetics of antibacterial substances from nonacidic esters was reported in this pamphlet. Culture methods and the techniques of separating the active material from the plastic are fully described. An unexpected discovery was that frankly propionic plastic extracts showed little or no antibacterial activity but methacrylic plastic properties were developed when the plastic was exposed to light and air. It was found that side chain esters were sensitive to the plastic substrates. The activity of the extracts and the project was then directed to an investigation of the antimicrobial activity of carboxylic acid side chain plastic length.

WERKMAN CHESTER HAMLIN, AND P W
WILSON editors

Bacterial physiology New York Academic Press, Inc., 1951 707 p. illus. 24 cm. \$9.80

921

Contents: Chemistry of the bacterial cell, by G. Kuyper. The structure of the bacterial cell, by G. Kuyper. *Zobrevibrio* varieties and adaptation, by J. Lohrström. Growth of bacteria, by I. C. Goss. Nitrogen fixation, by J. Lohrström. Growth and death, by P. Mitchell. Chemical factors affecting growth and death, by G. Wynn. Bacterial nutrition—chemical factors, by E. K. Paul. Bacterial enzymes and the theory of action, by F. Schödl. Assimilation. Assimilation of carbon dioxide, by C. H. Wainman. Assimilation of carbon dioxide, by J. W. Foster. Assimilation of carbon dioxide by heterotrophic bacteria, by C. H. Wainman. Organic nitrogen, by E. F. Gale. Inorganic nitrogen fixation, by P. W. Wilson. Mineral metabolism, by S. G. Knight. The comparative biochemistry of molecular hydrogen, by H. Kiefer and P. W. Wilson. Assimilation by bacteria, by C. M. Cohen. Degradation and synthesis of complex carbohydrates, by H. Kiefer and W. Z. Hoag. The kinetics of catalysis of catalytic and oxidative phosphorylation, by G. Loomis. Lysosomes, by H. F. Oesch. *Micrococcus* variety *nitroreducens*, by H. F. Oesch.

Note: A book composed of original papers which are monographs in nature and heavily documented. However, comprehensive survey of the pertinent literature has not been attempted. Thirteen of the twenty papers deal with various aspects of the biochemistry of bacteria and, of course, some of the results reported are applicable to the biochemistry of higher organisms. The short paper by Umbreit is potentially of interest to most persons concerned with biological research. The book is designed mainly for graduate students majoring in bacteriology and biochemistry.

TEXTBOOKS

BIRKLAND JOEKEN

Microbiology and man being an account of the diverse properties and characteristics of microorganisms, a description of the various tools and techniques for their handling, and an inquiry into their subtle relationships to everyday life. Second edition. Baltimore: Williams & Wilkins Company 1949 525 p. illus. 23 cm. \$5.00. 922

Contents (abbreviated) Section I Fundamentals of Microbiology: How we study Microbiology. Biological characteristics of various organisms. Microorganisms and the carbon and nitrogen cycles. Bacterial heredity and variation. How the environment affects microorganisms. Antibiotics and antibiotics. Section II, Infection and resistance: How the body defends itself against infection. Epidemiology or the natural history of disease. Section III, Cores of water: Three domains. Section IV Microbiology of air, food, milk, water, sewage, and soils: Bacterial wastes. Glossary. References. Index.

Note: (1954e) An introductory textbook primarily for college courses offered to students who need general knowledge of bacteriology but do not plan to do advanced work in the subject. Emphasis is on the methodology of bacteriology, research and on the application of the knowledge of bacteriology to personal and public health. In the opening the work has been rather severely revised. The taxonomic material included in the first edition has been deleted. Six new chapters have been added.

BURNETT WILLIAM

Jordan-Burrows textbook of bacteriology
By William Burrows. With the collaboration
of Francis Byron Gordon Richard Janvier
Porter and James William Moulder Fifteenth
edition. Philadelphia W B Saunders Com-
pany 1950 981 p illus. 24 cm. \$9.50 923

Contents (abridged). Laboratory methods for the study of bacteria. Bacterial physiology. The effect of physical and chemical agents on bacteria. Bacterial heredity and variation. The transmission of infection. The bacteriology of water and sewage. The bacteriology of milk and food. Immunity—antigen, antibodies and the antigen-antibody reaction. The streptococci. The staphylococci. The pneumococci. The enteric bacilli. The *Shigella* species and related forms. Brucella. Pasteurella. The hemophilic bacteria. Bacillus—the spore-forming enterics. Clostridia—the spore-forming anaerobes. Mycobacterium. Medical mycology—the pathogenic actinomycetes, molds, yeasts, and related microorganisms. The sporozoa. Medical parasitology by R. J. Foster. The rickettsiae. Various diseases of man and animals.

New. (#784) A standard textbook address to students in medical colleges and to other students with professional interests in applied bacteriology. Practically all microorganisms of clinical interest are described. The fourth edition appeared in 1945. This edition includes important changes in *last number of sections*. The second chapter on laboratory methods has been completely rewritten. A considerable number of illustrations have been added including variety of electron microphotographs.

FROBISHER MARTIN JR.

Fundamentals of bacteriology Fourth edition, Illustrated. Philadelphia W B Saunders Company 1950. 936 p. illus. 22 cm. O.D. 924

Contents (abridged) Section 1. First microscope: The place of microorganisms in the organic system. Optical methods in microbiology. Morphology and structure of bacteria. Environmental factors in microbiology. The cultivation of microorganisms. Methods of

MEDICINE

GENERAL

AMERICAN MEDICAL ASSOCIATION

Standard nomenclature of diseases and operations. By Richard J Plunkett, editor and Adaline C. Hayden, associate editor Fourth edition. Philadelphia The Blakiston Company 1952 1034 p. illus. 22 cm. \$8.00. 930

Contents (abridged): Instructions to medical scorekeepers. Systems of classification. Memorabilia of diseases. Morphological terms for anatomical parts. Synonymy of terms. Morphological descriptions. Classification of suppurative diseases. Operations, instruments, apparatus, special operations. Operations. Nosology of diseases. Anatomical sections. Diseases. Operations. Anatomical sections. Code numbers of International list of causes of diseases. Injuries and causes of death cross indexed to "standard" code symbols.

Note: (2216) The standard U. S. authority on manufacturers and classification of diseases and operations and on records pertaining thereto. The present edition represents an extensive and careful revision. Among the important changes is the inclusion of code numbers that correlate this work with the *International statistical classification of diseases, injuries, and causes of death*.

ANNUAL REVIEW OF MEDICINE. Volume 3

Windsor C. Cutting editor Henry W. Newman, associate editor Stanford, Calif. Annual Reviews Inc. 1952 442 p. 23 cm. \$6.00.

Central Nervous System (The effects of various diseases and conditions on the central nervous system.) by J. A. Thompson. Diseases of the central nervous system, by J. A. Thompson. Diseases of the central nervous system, by J. A. Thompson. Diseases of the central nervous system, by J. A. Thompson.

Note: The editors of the present volume of this series have stated in the Preface: "[The] design has been that each section shall be written by an author in the field concerned, and that it shall be a discussion of the subject in the light of the contemporary literature and the author's special knowledge, rather than an ordering of references or stringing together of abstracts. Accordingly critical comments and references to controversies' experience are found in many of the chapters; however the familiar pattern of entire abstracts blended together so as to form narrative accounts had not been avoided. Specific statements in the narratives are highlighted by chapters of the source articles. A detailed subject index covers the contents of the volumes and an author index indicates the names of all authors of cited papers. Particular attention is called to the first section, which is devoted to history and methodology of the papers published between January and October, 1951 in which specific areas of medicine are reviewed and summarized with linguistic cautions.

GLASSER, OTTO editor

Medical physics. Volume II. Editor in chief Otto Glasser Editorial assistant, Jessie C. Tucker Chicago The Year Book Pub-

Fishers, Inc., 1950. 1227 p. illus. 28 cm.
\$25.00 932

Note (1994) A cyclopaedic reference book of physical knowledge applicable to medicine. The first articles deal with the high energy electronic accelerators such as the cyclotrons which are used in cancer treatment; series of articles covers what the writer has termed "bio-electricity"; there is a collection of articles on the digestive tract; one on radiation; another on rheumatism, etc. Although few articles are short the typical article is several pages in length. Articles are signed with the names of the authors and contain bibliographies. There is fairly detailed subject index.

GREEN, DAVID EKRA AND W EUGENE

Knox editors

Research in medical science. New York
The Macmillan Company 1950. 492 p. illus.
24 cm. \$6.50 933

[illegible]

Note: The typical article in this book contains a brief outline of the development of study in the field of medical or biological research summed up in its title, describes the more important findings to date, and indicates probable lines of future development. Literature references are included for each article. The style is semi-technical and the book is suitable for persons who are thinking of entering research and for physicians, mechanists, and even laymen who would be just view of the scope of the field or of the more significant discoveries.

HAWLEY PAUL RAMSEY

New discoveries in medicine their effect on the public health. New York Columbia University Press, 1950 134 p illus. 21 cm. \$2.50.

Contents: Our children bleed—Part I, Early discovery—Part II, Development of transfusion as therapeutic technique—Part III, The Rh factor: Modern surgery of the heart and lungs, Modern prevention and treatment of mental illness. The socio-economic aspects of medical care—Part I, Economic history of medical care—Part II, The environmental vehicle.

Note. Collected in this book are the second series of Banquet Lectures in America, which were delivered at Columbia University in 1949 by the Director of the American College of Surgeons. They are addressed to laymen rather than to medical men and they provide readable and authoritative surveys for this audience of some important developments in medicine and surgery.

McMANUS JOSEPH FORDE ANTHONY,
editor

Progress in fundamental medicine. 74 Illustrations and 2 colored plates. Philadelphia: Lea & Febiger, 1952 316 p. illus. (part col'd) 26 cm. \$9.00. 935

Contents (abridged): Section I, Parasitology with particular reference to protozoa, helminths, and fungi, by P. R. Coombs. Malignant tumors of the skin, by J. A. Combs. Pathology of systemic lupus erythematosus, by P. Klempner. The diagnosis of fungus infections with particular reference to staining methods, by A. M. Kilgus. The liver, by G. K. Malley and T. B. Malley. A survey of techniques for the histochemical approach to pathology, by J. F. A. McCluskey. Coronary artery disease, by J. C. Paterson. The problem of carcinoma in situ with reference to the human cervix uteri, by L. D. Roddard. The recognition of carcinoma in situ of the cervix uteri by Papapanou's method, by W. K. Caylor. Microscopic pneumonitis, by J. P. Wright. Index.

Note: A volume made up of original monographs in which the authors have organized and interpreted significant recent advances in selected areas of medicine. The book is the result of a planned effort to do justice to these advances by providing graduate medical practitioners with either full accounts of them and by providing lists of the literature in which they were originally reported.

MAINLAND DONALD

Elementary medical statistics the principles of quantitative medicine. Philadelphia: W B Saunders Company 1952 327 p. illus. 22 cm. \$5.00 936

Contents: The place of statistics in medicine. On looking at evidence. Estimating the error in enumerative data. Comparison of samples of enumeration data. Variation between measurements. Relationships between measurements—correlation, variation and trends. Statistical ideas in clinical medicine. Some further ideas for investigation. Appendix. References. Appendix. Index. Groups.

Note: An introductory textbook in which the reader is introduced to certain basic statistical concepts and techniques, but in which the main emphasis is on the application of statistical techniques to medical research and other matters of medical interest. The author is Professor of Medical Statistics in the College of Medicine of New York University.

MATSEN FREDERICK ALBERT AND OTHERS

Pre-medical physical chemistry by F. A. Matsen, Jack Myers and Norman Hackerman. New York: The Macmillan Company 1949 344 p. illus. 22 cm. \$4.75 937

Contents (abridged): Mathematical introduction. Atomic structure. Molecular structure and intermolecular forces. Gases, liquid and solid states. The liquid state. The solid state. Elementary kinetics. Equilibrium and free energy. Equilibrium in one-component systems. Equilibrium in two-component systems. Oxidation-reduction equilibria. Acid and base equilibria. Buffers. Buffer capacity. Molecular orientation at interfaces. The colloidal state and physical means of its investigation. Electrostatics. Stability of colloidal systems. Membrane phenomena. Biological energy exchange. Appendix. Index.

Note: The chief topics in physical chemistry that are of interest in medicine are treated in this text for undergraduate college students who are preparing for medical schools. The topics are well chosen, and although the main emphasis is on basic matters, applications to biology and medicine are frequently pointed out in such sentences as "A valuable technique in diffusion studies on biological materials is known as the *potentiometric method*". The level of treatment assumes previous study of basic physics and general chemistry. The authors are members of the faculty of the University of Texas.

METHODS IN MEDICAL RESEARCH. Volume 2

Julius H. Comroe, Jr., editor in-chief Chicago: The Year Book Publishers, Inc., 1950. 361 p. illus. 22 cm. \$6.50. 938

Contents (abridged): Section I, Methods of study of bacterial viruses, by M. H. Adams, associate editor. Section II, Pulmonary function tests, by J. H. Comroe, Jr., associate editor. Section III,

Assay of hormone secretions, by E. H. Yarnall, associate editor. Subject index. Name index.

Volume 3 Ralph W. Gerard, editor in-chief Chicago: The Year Book Publishers, Inc., 1950 312 p. illus. 22 cm. \$7.00. 939

Contents (abridged): Section I, Genetics of microorganisms, by R. H. Luria, associate editor. Section II, Assay of neurohumors, by J. H. Gaddum, associate editor. Section III, Selected psychomotor measurement methods, by W. R. Miles, associate editor. Section IV, Methods for study of peptide structure, by C. H. Li, associate editor. Subject index. Name index.

Volume 4 Maurice B. Viascher editor in-chief Chicago: The Year Book Publishers, Inc., 1951 306 p. illus. 22 cm. \$7.00. 940

Contents (abridged): Section I, Histochemical staining methods, by O. Gomori, associate editor. Section II, Field and electrolyte distributions, by L. B. Ficker, associate editor. Section III, Studies on gastrointestinal processes, absorption and secretion, by J. P. Quigley, associate editor. Section IV, Tissue culture methods, by C. M. Fennell, associate editor. Subject index. Name index.

Volume 5 A. C. Corcoran, editor in-chief Chicago: The Year Book Publishers, Inc., 1952 394 p. illus. 22 cm. \$7.50 941

Contents (abridged): Section I, Methods for separation of complex mixtures and higher molecular weight substances, by L. C. Craig, associate editor. Section II, Methods of renal study, by A. C. Corcoran, associate editor. Section III, Immunological methods for determining immunochemistry of proteins and polysaccharides, by M. Colp, associate editor. Subject index. Name index.

Note: (801) This valuable series, initiated with the publication of volume 1 in 1944, has been continued by the volume listed above. Each volume contains an assortment of original monographs on currently important or newly developed methods and techniques in medical research. As the titles show "medical research" has been interpreted broadly. Many of the papers such as that by Nichols on ultrasonography are of interest in several fields of research. The papers are accompanied by bibliographies and are usually illustrated.

NEW YORK ACADEMY OF MEDICINE

Perspectives in medicine, the march of medicine, 1948 New York: Columbia University Press 1949 183 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No. xiii) \$2.50 942

Contents: The atom in civil life, by L. I. Stowe. Fuel and civilization, by Sir R. Clifton. On being old too young, by E. J. Stigler. Perspectives in cancer research, by C. P. Klemm. Prochlorate for everyday science, by W. C. Marshall. The interrelation of pure and applied science in the field of medicine, by J. R. Conant. Index.

The future in medicine, the march of medicine 1949 New York: Columbia University Press 1950 160 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No. xiv) \$2.50. 943

Contents: Law and medicine, by R. F. Patterson. The endocrine—arrests or arrests? by E. Shorr. Science under dictatorship, by L. Alexander. Blood and man, by W. C. Boyd. The criminal within us, by O. E. Gunder. Index.

Frontiers in medicine the march of medicine, 1950 New York: Columbia University Press, 1951 150 p. 21 cm. (The New York Academy of Medicine. Lectures to the laity No. xv) \$2.50. 944

Contents: Frontiers in psychiatry, by F. Alexander. Mathematics—arith or penumbra, by D. Bregal. Frontiers in genetics, by L. H. Snyder. Machines that work like men, by J. H. Gibson. N. R.

Saunders Company 1951 1736 p. illus (part col d) 25 cm. \$11 50 950

Note: (810*) One of the standard comprehensive medical dictionaries. In this semi-centennial edition (it first appeared in 1900) there has been considerable revision and the type has been reset. An article on medical etymology by Lloyd W. Daly has been added as new features at the beginning of the book, and at the end of the book there is reference table of modern drugs and diseases compiled by Austin Smith.

GOLDBERG, MORRIS

Spanish English chemical and medical dictionary comprising terms employed in medicine, biochemistry surgery dentistry veterinary biology, pharmacy, allied sciences and related scientific equipment. New York: McGraw Hill Book Company Inc., 1952 608 p. 24 cm. \$17 50 951

Note: (811*) A complement to the author's English-Spanish chemical and medical dictionary, New York, 1947. The number of Spanish words for which English equivalents are given is about 35,000. Readings are brief, not encyclopedic but concise. "Anemia, L. leucemia, L. form of aplasia characterized by an inability to coagulate. However short definition is always given in addition to the English equivalent of the Spanish term."

JONES HAROLD WELLINGTON, AND OTHERS editors

Blakiston's new Gould medical dictionary. A modern comprehensive dictionary of the terms used in all branches of medicine and allied sciences including medical physics and chemistry dentistry pharmacy nursing, veterinary medicine, zoology and botany as well as medicolegal terms with illustrations and tables. Editors Harold Wellington Jones Norman L. Hoerr Arthur Osol with the co-operation of an editorial board and 80 contributors. 252 illustrations on 45 plates 129 in color Philadelphia: The Blakiston Company 1949 1294 p. illus. (part col d) 25 cm. \$9 50 952

Note: (811) The present edition of this standard work is not revision in the usual sense of the term, but is completely new work, edited without regard to preserving matter in previous editions. There are three distinct parts: the vocabulary of 1154 pages, the illustrations (partly colored) on 45 plates, and the tables covering pages 1157-1294. Defined words and terms are arranged two columns in the page and are listed in boldface type with definitions indicated, as in an abridgment. Pronunciations and derivations are given. Terms of medical nature are listed and defined under the common part of the term. E. g., under *reaction* are defined 78 different specified reactions, under *resonance* are defined 64 different specified resonances, under *sex* 13 nouns, under *anemia* 64 nouns, compounds, under *test* 400 tests are defined. Medical abbreviations are likewise defined in the main vocabulary. Also included are short biographical sketches of persons prominent in medical history. The appendix contains 71 extensive tables.

PEPPER, OLIVER HAZARD PERRY

Medical etymology: the history and derivation of medical terms for students of medicine, dentistry and nursing Philadelphia: W. B. Saunders Company 1949 263 p. 24 cm. \$5 50 953

Contents: Part I, Introduction: Background of medical terminology. Prefixes, suffixes, compounds & transformations. Eponyms and monospecific words. Part II, Principal subjects: Anatomy. Physiological chemistry. Physiology. Pathology. Bacteriology. Pharmacology and therapeutics. Pathology. Part III, Clinical subjects:

Medicine. Surgery. Pathology. Neurology. Gynecology and obstetrics. Ophthalmology. Dermatology. Otolaryngology. Psychiatry. Radiology. Part IV, Dentistry: Dental terminology. Index of words.

Note: The greater part of this book is taken up with lists of terms arranged under the names of medicines and the background sciences listed above. Each list of terms is arranged as in a dictionary and for each term the following information is usually given: the Greek or Latin source word, English definition of the source word and short comment that throws light on how the term came to be applied. A typical entry follows: *acids*. L. *acidus* = grape. Acids would naturally be regarded as bunch of grapes by the names of small, rounded fruits of glandular structure. The book is useful not only to beginning medical students but also as a general reference work on the etymology of medical terms.

SKINNER, HENRY ALAN

The origin of medical terms. Baltimore: The Williams & Wilkins Company 1949 379 p. 26 cm. \$7 00 954

Note: A reference book for medical students and other specialists in etymology. A certain amount of encyclopedic information is included. The source word is always given as is customary in etymological dictionaries, and this information is frequently supplemented by discussion—sometimes many sentences in length—in which is all as historical and general information on the early use of the word. Another feature is the inclusion of short biographical sketches of prominent physicians and other persons who made some contribution to the development of medicine. The author is Professor of Anatomy in the University of Western Ontario.

TAYLOR, NORMAN BURKE editor

Stedman's medical dictionary of words used in medicine with their derivations and pronunciation including dental, veterinary, chemical, botanical, electrical life insurance and other special terms, anatomical tables of titles in general use, the terms sanctioned by the Basle anatomical convention the new British anatomical nomenclature pharmaceutical preparations official in the U. S. and British Pharmacopoeias or contained in the National Formulary and comprehensive lists of synonyms biographical sketches of the principal figures in the history of medicine. Edited by Norman Burke Taylor in collaboration with Allen Ellsworth Taylor Seventeenth revised edition with etymologic and orthographic rules Baltimore: The Williams and Wilkins Company 1949 1361 p. illus. (part col d) 25 cm. \$8 50 955

Note: (812*) A standard work that has held its place for many years as one of the world's chief dictionaries of medical terms. Definitions are adequately full and etymology and pronunciation are given for most of the words defined. A selection of abbreviations is included in the main alphabet. Some trade names are included but there are fewer in this 17th edition than in previous editions. Special reference features include: preliminary essay on medical etymology, tables of weights and measures, temperature and barometric scales, and comparative table of medicinal nomenclatures. The 16th edition was published in 1944. Both deletions and additions of terms were made throughout the alphabet in preparing this edition. Two categorical changes were made: deletion of most of the trade names and addition of the full names, nomenclatures, positions, and years of birth and death of men whose names are identified with theories, tests, techniques, etc.

HISTORY

FULTON JOHN FARQUHAR

The great medical bibliographers: a study in humanism. Philadelphia: University of

Pennsylvania, 1951 107 p illus. 22 cm. (The Rosenbach Fellowship in Bibliography Publications) \$4 00. 956

Contents: The bibliophile; Trithem, Champion and Gomer. The seventeenth and eighteenth centuries: medical book sales, a Brughem, Van der Linden, Haller and the rest of medical bibliography. Medical subject indices: Pharmacopoeia, Fecula, Calceus, and Bibliographia Classica and Oculi; Keyes and the rise of personal bibliography. Appendix. Index.

Note: The history of medical bibliography is skilfully outlined in this collection of lectures that were delivered in 1950 on the A. W. Rosenbach Fellowship in Bibliography at the University of Pennsylvania. The bibliographical accomplishments of the great medical bibliographers are emphasized, but there is enough on their other accomplishments and personal life to make the account interesting. Among the appendix material is: A list of early role catalogues of medical books; bibliographical descriptions of the *Waller Bibliotheca* and descriptions of the bibliographies of Geoffrey Keyes. The illustrations include reproductions of portraits and facsimiles of title pages. The author himself, noted contributor to medical bibliography in *Shaping Progress of the History of Medicine in Yale University School of Medicine*.

FULTON JOHN FARQUHAR

Logan Clendenning Lectures on the History and Philosophy of Medicine. First series 1, Vesalius four centuries later in Medicine in the eighteenth century Lawrence, Kansas University of Kansas Press, 1950. 52 p. 22 cm. (University of Kansas. Logan Clendenning Lectures on the History and Philosophy of Medicine. First series) \$1 00 957

Note: This book contains two original lectures by an eminent student on medical history. In the first lecture the author looks out some high points in the life of Vesalius, then discusses from the historical point of view Vesalius' *Tabulae an. Fabricae et Epitome*. In the second lecture he discusses some of the advances in physiology, pathology and internal medicine that were made during the eighteenth century.

GORDON BENJAMIN LEE

Medicine throughout antiquity Foreword by Max Neuburger 157 illustrations. Philadelphia F. A. Davis Company, 1949 818 p. illus. 24 cm. \$6.00 958

Contents: Part I. Problems and prehistoric medicine: Introduction. The antiquity of medicine. Paleolithic evidence of the antiquity of medicine. Prehistoric medicine. Primitive concepts of disease and death. Native worship and medicine. Medicine in Assyria-Babylonia. Medicine of ancient Egypt. Ancient Hebrew medicine. Medicine in ancient Persia. Ailments of ancient medicine. Medical concepts in China. Medicine in ancient Japan. Medicine among the prehistoric Americans. Part II. The Greek-Roman period: Demos of Greek medicine. Influence of philosophy on medicine. Medical philosophy and prehistoric medicine. Hippocrates, the great teacher. Hippocrates, the clinician. The drift towards dogmatism. The Atomists. The Pythagoreans, Epicureans, and Stoics. Alexandria school. Empiricism. Roman medicine. The medical school. The neopythagoreans. The pythagoreans and electricity. Galen. Talmudic medicine. Talmudic diagnosis and treatment. Index.

Note: A comprehensive yet readable account of the art of medicine from the beginnings of man's existence to 476 A.D. The book, which is written for both laymen and physicians, discusses the medical beliefs and knowledge held by the men of this early period, and discusses the diseases from which they suffered and the therapeutic measures employed. Numerous extracts from the ancient records upon which the book is based are woven into the general narrative. Chapter bibliography is provided.

LEAKE, CHAUNCEY D

The old Egyptian medical papyrus. Lawrence, Kansas University of Kansas Press, 1952 108 p. 21 cm. (University of Kansas.

Logan Clendenning lectures on the history and philosophy of medicine. Second series) \$2 00. 959

Contents: The chief Egyptian medical papyrus. Old Egyptian weights and measures. Drug measurements in the old Egyptian medical papyrus. Ancient Egyptian Cosmetics. The Hermet medical papyrus. Organization of the Hermet medical papyrus. Demos in the Hermet medical papyrus. The ingredients of the Hermet papyrus prescriptions. Summary. Appendix—List of prescriptions in the Hermet medical papyrus. References. Index.

Note: 1. This work is the study of ancient Egyptian medical practices as revealed by the study of eight papyrus during 1900 A.D. to 1900 A.D. are summarized. The greater part of the book deals with the diseases and methods of treatment described in the Hermet papyrus (1150 A.D.) which was acquired by the University of California in 1901.

SIGRIST HENRY ERNEST

A history of medicine. Volume 1 Primitive and archaic medicine. New York Oxford University Press, 1951 564 p. illus. 24 cm. (Yale Medical Library, Historical Library Publication no. 27) \$12 50 960

Contents: Introduction. Primitive medicine. Ancient Egypt. Mesopotamia. Appendix. History of medicine. Sources books of medical history. History of medical history. Literature of paleopathology since 1850. Index.

Note: The first volume published of an eight-volume work planned on "more comprehensive" scale than has been attempted before. It is the author's purpose to apply to the history of medicine the same principles as are applied to scientific histories of other aspects of human life. A reading of the part of his introduction entitled "The historical approach to medicine" is essential to an understanding of his plan and the substance in his chapter on Mesopotamia. "The medicine," "Social environment," "Principles and sources of Mesopotamian medicine," "Fossils and physical," "Concepts of Mesopotamian medicine," "Elements of Mesopotamian medicine," "The history of the medical art," and the "Science of man and nature" on the social and economic setting. His style is in both scholarly and readable. Sources are scrupulously noted.

WOOLOM WILLIAM HENRY

Discoverers for medicine. New Haven Yale University Press, 1949 229 p. illus. 24 cm. \$3 75 961

Contents: Introduction. The blood pressure—Stephen Hales. Respiration—Astruc. Lungs—Lewin. The trachea—William Harvey. Vaccination—Edward Jenner. The lymphatic system—Alfred Corne. The Estimation tube—Edwin Carter. Glycerol and spermaceti—Alfred Corne. The skin—Joseph Priestley. Respiration—Quaranta. Phlogiston—The Nicholas of Cusa—Whitcomb. General Respiration—Harvey—Gower. Human Model. Milk—Schwann—John Ross. Bibliography. Index.

Note: An informed history of selected advances in medical knowledge and practice that were based on discoveries or inventions of persons not members of the medical profession. Much is organized in the form of biographical sketches of selected individuals. However, each sketch contains, in addition to personal biographical data, historical and background information. One often includes accounts of the contributions of other persons. Also the illustrations mention advances made in various fields of science by scientists. The style is popular and the book is suitable for both lay readers and students.

GENERAL TEXTS AND TREATISES

ADVANCES IN INTERNAL MEDICINE. Volume IV Editors, William Dock and I. Snapper associate editors, Tinley R. Harrison, Chester S. Keefer, Warfield T. Longcope, J. Murray Steele. Chicago The Year Book Publishers, Inc. 1950 549 p. illus. 23 cm. \$10 00. 962

Contents: Advances in the treatment of nephrotic disease. D. A. Kennedy. Use of radioactive isotopes in medicine. By L. R. Wessman and R. Loeferer. Bradenbury, by A. I. Bonds and W. W. Spink. Advances in the treatment of diabetes. By D.

McEachern and R. Rabinovitch. Use of sodium depletion in therapy, by W. Deck. Cholecystitis, by J. E. Katz and E. V. Allen. Hypertrophy and cirrhosis of the liver, by A. J. Patai. J. Hepatic tests, by H. Popper and F. Schaffner. The metabolic physiology of hypertension, by G. W. Pickering. Author index. Subject index. Cumulative index. Volumes 1-10.

— Volume v Editors, William Dock and I. Snapper. Chicago. The Year Book Publishers, Inc., 1952. 464 p. illus. 23 cm. \$10.50.

963

Contents: Diseases of the pregnant woman affecting the offspring, by M. H. Bass. Calcification of the heart, by R. J. King. Portal hypertension and its treatment, by A. H. Blumenson. The incidence of infection, extra, A review by G. E. Cartwright and M. M. Weinstein. Const., Derangement of protein metabolism, by A. R. Osterson and T. F. V. Clinical aspects of endocrine and endocrine blocking agents, by E. H. Lyons and V. L. Levy. Aspects of the infectious problem, by J. M. H. Experience with adrenocorticotrophic hormone (ACTH) and cortisone, by C. Eagan. Abnormal proteins in myeloma, by J. Waldenström.

Note: (ASO) Further volumes in series in which recent developments are summarized and references are given to the original articles. The papers are not mere abstracts but are long enough to convey the significance and most of the results described in the original publications. The series is addressed to general practitioners, internists, and specialists who wish to keep up with developments in this branch of medicine.

CECIL, RUSSELL LA FAYETTE editor

The specialties in general practice. Philadelphia W B Saunders Company, 1951. 818 p. illus. 26 cm. \$15.00.

964

Contents: Minor surgery, by W. A. Barnes. Orthopedic surgery, by L. R. Burch. Fractures and dislocations, by C. H. Barnard. Otolaryngology, by H. J. Lusk. Diseases of the ear, nose and throat, by C. H. Child. Ophthalmology, by L. M. Hinkle. Ophthalmology, by L. M. Hinkle. Pediatrics, by R. C. Eley. Ophthalmology, by R. T. Patten. Diseases of the nose and throat, by A. W. Francis. Diseases of the larynx, trachea and esophagus, by C. L. Jackson. Otolaryngology, by R. P. Perrot. Dermatology and syphilology, by G. M. Lewis. Psychiatry, by D. D. Reed and J. M. Finnerman. Index.

Note: The several chapters of this work have been written by eminent specialists, but the book is designed, as the title indicates, for the general practitioner. The emphasis is on knowledge that can be put to practical use as the regular work of general practitioners. Much of the information is as might be expected—(and) but some of the techniques, for instance, number of those treated in the chapter on orthopedic surgery are outside the usual knowledge of the general practitioner. Each chapter is supplemented by literature references. There are 470 figures and an exceptionally full index.

CECIL RUSSELL LA FAYETTE, AND ROBERT F LOEB editors

A textbook of medicine. Edited by Russell L. Cecil, Robert F. Loeb associate editors, Alexander B. Gutman, Walsh McDermott, and Harold G. Wolff. Eighth edition, illustrated. Philadelphia W B Saunders Company 1951. 1627 p. illus. (part color) 26 cm. \$13.00.

965

Contents: (abridged) The infectious diseases. Viral diseases. Bacterial diseases. Rickettsial diseases—pneumococcal infections—streptococcal infections—diphtheria—tetanus—dysentery—gonorrhea—syphilis—leptospirosis—brucellosis—typhoid fever. The mycotic diseases. Sporadic infections. Protozoan infections. Malaria infections—the Plasmodium—the Malaria—Hemoglobin—arthropods and human diseases. Diseases of improved etiology. Diseases of allergy. Diseases of collagen. Diseases due to physical agents. Diseases due to chemical agents. Degenerative diseases. Diseases of metabolism. Diseases of the digestive system. Diseases of the mouth, salivary glands and pharynx. Diseases of the esophagus. Diseases of the stomach. Diseases of the intestines. Diseases of the liver. Diseases of the gall-bladder and bile ducts. Diseases of the pancreas. Diseases of the peritoneum. Diseases of the respiratory system. Diseases of the nose. Diseases of the larynx. Diseases of the bronchi. Diseases of the lungs. Diseases of the mediastinum. Diseases of the diaphragm. Diseases of the trachea. Diseases of the spleen and reticulo-endothelial system.

Diseases of the blood. Diseases of the cardiovascular system. Diseases of the heart. Diseases of the peripheral vessels. Diseases of the ductless glands. Diseases of the thyroid gland. Diseases of the pituitary gland. Diseases of the adrenal glands. Diseases of the thyroid gland. Diseases of the parathyroid glands. Diseases of the sex glands. Diseases of the locomotor system. Diseases of the muscles. Diseases of the joints. Diseases of the bones. Diseases of the nervous system. Important symptoms and signs. Diseases of the motor system. Hereditary familial and congenital diseases. Diseases of various etiology. Diffuse and focal diseases of the spinal cord. Diffuse and focal diseases of the brain. Diseases of nerve roots, plexuses and nerves. Diseases of other roots and nerves. Vascular and triple disorders. Psychomotoric diseases. The psychoneurotic. The psychoses. Appendix and index.

Note: (ASO) A leading American textbook on internal medicine. It is encyclopedic in coverage and is used both as a text in medical schools and as a reference book by medical graduates. Most of the space is devoted to descriptions of individual diseases; and the coverage is directed as to diagnosis, epidemiology, etiology, pathophysiology, diagnosis, treatment, prognosis, and pathophysiology. The chapters are all signed with the names of prominent medical teachers and practitioners. The seventh edition was published in 1947. In preparing this edition 20 articles are added on diseases and aspects of diseases not previously covered. In addition, 23 articles were deleted and their places taken by new essays. Recent literature was added to the bibliography.

CONN HOWARD FRANKLIN, editor

Current therapy 1952 latest approved methods of treatment for the practicing physician. Consulting editors M. Edward Davis, Vincent J. Derbes, Garfield G. Duncan, Hugh J. Jewett, William J. Kerr, Perrin H. Long, H. Houston Merritt, Paul A. O'Leary, Walter L. Palmer, Hobart A. Reimann, Cyrus C. Sturgis, and Robert H. Williams. Philadelphia W B Saunders Company, 1952. 849 p. illus. 27 cm. \$11.00.

966

Contents: (abridged) Section one, The infectious diseases. Section two, Diseases of the respiratory system. Section three, Diseases of the cardiovascular system. Section four, Diseases of the blood and the hematopoietic system. Section five, Diseases of the digestive system. Section six, Diseases of the endocrine system. Section seven, Diseases of the reproductive tract. Section eight, The venereal diseases. Section nine, The allergic diseases. Section eleven, Diseases of the skin. Section twelve, Diseases of the nervous system. Section thirteen, Diseases of the locomotor system. Section fourteen, Obstetric and gynecologic conditions. Section fifteen, Diseases due to physical and chemical agents. Section sixteen, Appendix and index.

Note: An annual publication, in each volume of which present practitioners of medicine and other recognized authorities describe currently used methods of therapy in wide range of diseases. Some of the articles describe only one method of treatment; others describe several. Surgical techniques are not covered, but indications for surgical treatment are given and pre- and post-operative care are described. The book is valuable not only for its clear descriptions of reliable methods but also for its comparisons among therapeutic agents, for example, penicillin-sulfonamide acid was found to be of superior benefit, but with the advent of ampicillin and chloramphenicol (Chloromycin) in 1948 and tetracycline in 1950, specific treatment for spotted fever was clearly demonstrated.

CORNELL CONFERENCES ON THERAPY [reports] Volume four. Edited by Harry Gold, David P. Barr, Frank Glenn, McKern Catell, Walter Modell and George Reager. New York The Macmillan Company 1951. 342 p. 21 cm. \$3.50.

967

Contents: Rheumatic polymyalgia. Treatment of diabetic emergencies. Therapeutic use of gamma globulin. Treatment of cardiovascular syphilis. Treatment of anemias. Management of thrombotic thrombocytopenic purpura. Management of cardiovascular manifestations of thyroid disorders. Management of disorders of cardiac rhythm. Medical management of hypertension. Treatment of partial disorders of skeletal muscle. Use of new antineoplastic agents in primary neoplasms. Management of the neoplasms. Treatment of morphine addiction. List of conferences for volumes 1, 2, and 3.

Volume five. Edited by Harry Gold, David P. Barr, McKen Cattell, Frank C. Ferguson, Jr., Frank Glenn and George Reader. New York: The Macmillan Company, 1952. 295 p. 21 cm. \$4.00. 968

Contents: Treatment of cough. The management of fever. General indications for vitamin therapy. Treatment of obesity. Low cholesterol diet in the treatment of atherosclerosis. Use of isolation and narcotics. Addiction as a complication of the therapeutic use of drugs. Treatment of some chronic muscular diseases. Relief of pain by short-acting drugs. Use of carotid and carotid-artery anastomosis. Problems in treatment of the chronic urinary tract. Treatment of acute arterial occlusion. Treatment of carbon monoxide poisoning. Treatment of psoriasis. Treatment of bacterial meningitis. List of conferences for the volume 1, 2, 3, and 4.

Note (134-137): The volumes in this series contain edited descriptive reports of symposia held under the auspices of the Department of Medicine and Pharmacology of Cornell University Medical College-New York Hospital. Participants in the conference include staff members of the college and hospital, pharmacists, visiting professors, and specialists. As might be expected, the style of presentation is informal. However, the information presented is authoritative and of such current interest, especially to general practitioners.

HYMAN, HAROLD THOMAS

An integrated practice of medicine. Progress volume. Modern developments in therapeutics and methods of treatment. Philadelphia: W. B. Saunders Company, 1950. 4133-4867 p. 24 cm. \$10.00. 969

Note (134-137): An supplement to the author's cyclopedic integrated practice of medicine. Its purpose is to cover developments beyond the writing of that work (which was published in 1946) and more material in 1950. Topics are arranged alphabetically from acetylsalicylic acid to yellow fever and references are given to the pages of the original work. In which the new material is related. The volume contains both the general reference to the main work and on index to the Progress volume itself.

MAYO CLINIC ROCHESTER, MINNESOTA

Collected papers of the Mayo Clinic and the Mayo Foundation. Volume 43. 1951 published June, 1952. Philadelphia: W. B. Saunders Company, 1952. 833 p. illus. 24 cm. \$12.00. 970

Contents (abstract): Alimentary tract. Gastrointestinal diseases. Duodenal disease. Esophagus and esophageal surgery. Skin and ophthalmology. Head, neck and ear, nose and throat. Bone, spinal cord and nerves. Radiology. Physical medicine and rehabilitation. Anesthesia, and anesthesia. Physical medicine. Miscellaneous. Index of contributors. Index of subjects.

Note (134-137): The third in a series of several volumes designed to make generally available reports on advances in medicine which have taken place at the Mayo Clinic and Mayo Foundation. Many papers are given in full, some in abstract form or in abstract, and still others only by title, but in every case references are given to the original sources or publication of the paper. Of interest to workers in all branches of medical science.

MEAKINS, JONATHAN CAMPBELL

The practice of medicine. Fifth edition with 518 illustrations including 50 in color. St. Louis: The C. V. Mosby Company, 1950. 1558 p. illus. (part color) 26 cm. \$13.50. 971

Contents: An introduction to the practice of medicine. Diseases of the respiratory tract and mouth. Specific infections of the respiratory tract and mouth. Diseases of the larynx and bronchial system. Diseases of the lungs. Diseases of the circulatory system. Diseases of the nervous system, neuromuscular and degenerative. Diseases of the hematopoietic system. Diseases of the gastrointestinal tract. Diseases of the liver and bile passages. Diseases of the stomach. Diseases of the intestines. Diseases of the digestive glands. Diseases of the urinary system. Psychomotor medicine. Diseases of the locomotor system. Diseases of the urinary system. Infectious diseases. Chemotherapy and antibiotics. Diseases due to allergy. Diseases due

to abnormal environments. Diseases due to chemicals and drugs. Index.

Note: A standard medical college textbook in which the whole field of clinical medicine is covered from the standpoint of the general practitioner. Diagnosis and treatment are emphasized. All but small portions of the space is devoted to description of diseases. In these descriptions, diagnosis, prognosis, and treatment are emphasized; and there is relatively little material on etiology and pathogenesis. The fourth edition was published in 1944. The major changes in this edition consist of a new chapter on psychomotor medicine in place of the former chapter on psychiatry and a new chapter on chemotherapy and the antibiotics. Extensive have been made in many of the other chapters and sections of the literature published since 1944 has been added to the list of references.

MONOGRAPHS IN MEDICINE. Series I. Editor William B. Bean. Associate editors, Morton Hamburger, John A. Leutscher, Jr., and Stewart Wolf. Baltimore: The Williams & Wilkins Company, 1952. 655 p. illus. 24 cm. \$12.00. 972

Contents: Talking with the patient, by W. Wolf. Proctological disease board of distance from the chest, by W. R. Bean. Physiology of the body fluids, by W. W. Wallace. Angiography, by L. T. Diller and J. Shulzberg. Partial hypertension, by M. A. Payne and C. O. Child. In Phlebotomy, by H. Aronow. In Respiratory failure in neuromuscular diseases, by F. Plum. Corticosteroids and ACTH in infectious processes, by M. Michael, Jr. Phenomena of rheumatic fever, by C. H. Rosenblatt, Jr., and F. W. Danney. Anemia, by H. E. Henshaw. The present status of the chemotherapy of human malaria, by L. H. Schwartz. The seasonal, arthropod borne, virus encephalitis, by R. W. Schilling. Severe cell anemia, by R. L. Lovell and W. A. Macdonald. The genetic and molecular of the erythrocyte, by R. W. Fisher and J. F. Macleod. Chemical agents used in the treatment of leishmaniasis, and for advanced leishmaniasis, by D. A. Kennedy. Index.

Note: The first volume in a new series which has as its purpose the publication of short monographs on medical topics and topics related to medicine. The monographs are prepared by medical practitioners other than the author; and, as the titles indicate, they are not confined to any one branch of medicine. Although based on the literature and accompanied by substantial bibliographies, they are more than mere literature digests. The average length is 40 pages.

MUSSER, JOHN HERB, AND MICHAEL G. WOHL, editors

Internal medicine: its theory and practice. Originally edited by John H. Musser. Fifth edition edited by Michael G. Wohl. With 80 contributors, 236 illustrations and 10 colored plates. Philadelphia: Lea & Febiger, 1951. 1563 p. illus. 27 cm. \$15.00. 973

Contents: Part I. Infectious diseases: Some aspects of infection and resistance, by P. R. Canaan. The viral diseases, by C. W. Hoar. The bacterial diseases, by H. P. Henshaw. Diseases due to protozoa, by J. A. Kohn. The helminth diseases, by J. F. Henshaw. The coral diseases, by R. A. Kohn. The cestode diseases of children, by F. F. Carroll and A. C. La Brecque. The cestode diseases, by C. F. Carroll. The cestode diseases, by R. C. Fenn. Fungal infections or mycoses, by R. P. Grant. Principles of antimicrobial therapy, by H. J. Fenn. Diseases of selected etiology, by F. F. Rosenblatt and others. Part II. Diseases due to physical and chemical agents: Diseases due to physical and toxic agents, by D. P. Burr. Diseases due to chemical agents, by M. C. Flinn and R. P. Fisher. Part III. Diseases of the skin. General considerations, by F. O'Leary. Diseases of the skin, by M. G. Wohl and others. Diseases of metabolism, by J. H. Tallant and others. Diseases of the endocrine glands, by M. G. Wohl and others. Part IV. Diseases of allergy and collagen diseases: Diseases of allergy, by R. A. Conley and others. Collagen diseases, by M. G. Wohl and others. Part V. Systemic diseases: Genetics and medical practice, by L. H. Henshaw. Psychomotor aspects of medical practice, by R. W. Wolf. Diseases of the heart, by R. Henshaw and others. Diseases of the respiratory tract, by J. W. Fisher and others. Diseases of the kidneys, by L. L. Lister. Diseases of blood vessels and lymph vessels and abnormalities of blood pressure, by J. S. Wright and C. D. Morse. Diseases of the blood, by C. C. Wright. Diseases of the spleen and the reticuloendothelial system, by R. R. Kohn and R. P. Carter. Diseases of the alimentary tract, by C. M. Jones. Diseases of the locomotor system, by R. R. Mott. Part VI. Care of the aged and subnormalities: The care of

the aged, by E. A. Kara. Medical practice and rehabilitation, by H. A. Bask. Part vi, Diseases of the nervous system. Diseases and abnormalities of the mind including the nervous, by K. A. Stricker and M. M. Pearson. Organic diseases of the nervous system, by G. Wilson and others. Index.

Notes. (141.) A standard textbook and reference manual which is outstanding for its comprehensiveness. Most of the authors of the various chapters are professors on the faculties of leading medical schools in the United States of America. The fourth edition, the last one edited by the late Professor John H. Mower, was published in 1945. Although the length of the book has been decreased by only about 30 pages in this edition, the work has been extensively revised and several chapters have been added. The subject index is very detailed.

REFUSS MARTIN EMIL, AND ALISON
HOWE PRICE

A course in practical therapeutics. Second edition. Baltimore The Williams & Wilkins Company 1951 938 p illus. (part col'd) 29 cm. \$15 00 974

Contents (abridged): Section I, General therapeutic principles. Diagnostic survey. Adjustment of the patient. Prescription writing. Dietary principles. Nursing problems of interest to the physician. Contents of the physician's bag. Section II, Symptomatic therapy. Section III, Treatment of specific disorders: Visual, Auditory, Vestibular, and Equilibrium disorders. Disorders of the sense of touch and blood-pressure organs. Disorders of the heart, Diaphragm of the kidneys. Various disorders. Respiratory disorders. Allergic disorders. Physical agents and poisons. Chemotherapy. Infectious diseases. Systemic mycoses. Endocrine disorders. Section IV Special treatments: Ocular, Otorhinolaryngeal, Manual therapies. Oculogical therapies. Dermatological therapies. Psychotherapy. Industrial therapeutics. Oxygen therapy. Radiocutaneous isotopes. Physical medicine. Pediatric therapeutics. Probiotic bacteria. Atomic therapies. Index.

Note (M1?) A considerable well-bound work which was originally developed from material used in instructing medical students in the two-year course in practical therapeutics in Jefferson Medical College in Philadelphia. In addition to its use as a text, it is used as an office reference book by general practitioners of medicine. Only portion of the contents is indicated above. In the second section, for instance, 15 kinds of disorders are discussed. Under infectious diseases all of the diseases likely to be encountered in general practice are covered. In the present edition many new drugs that have been prepared since the first edition are mentioned. Under "Dietetics" and "Medicine" many large-scale reproductions of drawings which show reference points in diagnosis and therapeutic techniques.

YATER WALLACE MASON

Fundamentals of internal medicine. Third edition. New York: Appleton-Century-Crofts, Inc., 1949. 1451 p. 25 cm. \$12.00. 975

Conducts. Diseases of the heart. Diseases of the blood vessels. Diseases of the kidneys. Diseases of the blood and blood-forming organs. Diseases of the respiratory system. Diseases of the digestive system, by W. M. Yates. Diseases of the locomotor system. Diseases of the endocrine glands, by E. J. Kopple and F. H. Keating. Diseases of the spleen and reticulo-endothelial system. Diseases of the stomach. Diseases of the liver, by W. M. Yates and G. T. Brown. Diseases due to lactacemia, by E. M. Keenath and W. M. Yates. Diseases due to pyruvic acid, by E. M. Keenath and J. C. Adams. Diseases due to vitamin deficiencies and malnutrition, by W. H. Stead and W. M. Yates. The infectious diseases. Diseases of the nervous system, by A. Schneider and J. M. Williams. Mental diseases, by E. Schickler and I. Rode. Diseases of the skin, by W. O. Teichmann. Diseases of the eye, by F. C. Schickler. Diseases of the ear, by E. J. Cummings. Dietetics. Chemotherapy and therapy with antibiotics, by H. L. Hersh. Symptomatology and supportive treatment, by H. H. Haney. Inhalational therapy, by P. F. Jaquet. Clinical values and uses of blood. The pharmacy itself. Index.

Notes. (2047). A second edition, to this field, and chiefly as text for several college students, but valuable also as reference book for medical practitioners of medicine and specialists in field of the natural medicines. As indicated in the table of contents, many of the chapters were contributed by specialists other than the author. (When an author's name appears in the above table of contents, the chapter was written by Dr. Yater himself.) The second edition was published in 1944. Much new material was added in preparing this edition and some of the material carried over has been revised. There are now 315 figures as compared to 273 and 1451 pages as compared to 1204. When used as reference book these sections which deal with areas of medicine in which advances

are rapid—for instance, chemotherapy—must be supplemented by annual review volumes and periodical literature.

YEAR BOOK OF MEDICINE

The 1952 year book of medicine (May, 1951-May, 1952) Edited by Paul B. Beeson, J. Burns Amberson, William B. Castle, Tinsley R. Harrison, George B. Eusterman, Robert H. Williams. Chicago The Year Book Publishers, Inc., 1952 735 p. illus. 20 cm. \$6.00

Contents: Part I, Infections, by F. R. Brown. Part II, The chest, by J. B. Amberson. Part III, The blood and blood-forming organs, by W. B. Castle. Part IV, The heart and blood vessels and the kidney, by T. R. Harrison. Part V, The digestive system, by G. R. Eastman. Part VI, Metabolism, by R. H. Williams. Index. Introduction by author.

Notes (844) As in the other volumes in this serial series, the chapters in this one are made up of fairly long abstracts of articles selected from the world's medical periodicals and published during the period indicated in the title. A reference to the original publication is always given. In many instances there is short note by the editor in which the findings of the original author are evaluated or are related to other knowledge or realizations in the same area.

CLINICAL MEDICINE

BRAY WILLIAM EDWARD

Clinical laboratory methods. Fourth edition. With 119 text illustrations and 18 color plates. St. Louis The C. V. Mosby Company 1951 614 p. illus. (part col'd) 22 cm. \$7.25 977

Contents: General rules—laboratory examinations of urine in various cases. Urinalysis. Hematology. Blood chemistry. Genetic analysis. Factors and intestinal parasites. Principles of chromatography—chromatography of fluid examinations. Spores. Bacteriology. Mycology. Water and milk examinations. Serology. Blood metabolism tests. Allergy tests. Poisons and foreign substances. Surgical pathology. Indicators, stains and staining solutions, reagents, removal of laboratory stains, atomic weights, table of equivalents, table of percentiles. Index.

Notes: (2014) A long-established reference text addressed to medical college students and clinical laboratory technicians. It is accepted procedures are described step by step and in detail with special reference to such matters as collecting of specimens, clinical microbiological examinations, staining techniques and special points such as precautions, control variables in procedure, etc. Laboratory errors are included for many of the methods. The third edition entitled *Synopsis of clinical laboratory methods* was published in 1944. Although much of the content of the fourth edition is identical with that of the third, considerable mass of material has been added nevertheless. Also, some outdated material has been deleted.

CANTAROW, ABRAHAM, AND MAX TRUMPER

Clinical biochemistry Fourth edition. Philadelphia W B Saunders Company, 1949
642 p. illus. 24 cm. \$8.00 978

[illegible]

Notes (209th) A standard survey of the biochemical knowledge which has significance to clinical medicine. It is designed both for use as medical college textbook and as reference guide to the literature of the field. Correlations between biochemical knowledge and clinical implications are made as direct as possible, but the treatment is from the viewpoint of the medical clinician rather than the biochemist. The third edition appeared in 1943. Important

revisions and additions were made in preparing this edition. Sections on renal and respiratory regulation of acid base balance, thyroid function, adrenal function, chemical changes in shock are some of those effected. On the other hand, considerable number of the chapters have not been revised at all.

CONSOLAZIO C. FRANK AND OTHERS

Metabolic methods clinical procedures in the study of metabolic functions, by C. Frank Consolazio, Robert E. Johnson and Evelyn Marek. With 65 figures 32 tables and 2 charts. St. Louis: The C. V. Mosby Company 1951 471 p. illus. 26 cm. \$6.75 979

Contents (abridged) Section I, Introduction. Section II, The collection and storage of specimens. Section III, Instrumentation. Section IV, Chemical procedures. Section V, Microbiological procedures. Section VI, Physiological measurements. Section VII, Studies in the field. Section VIII, Techniques for metabolic tests. Section IX, Clinical laboratory procedures. Section X, Statistical methods. Section XI, Miscellaneous data. Index.

Note: Only procedures which the authors have themselves used are described in this book. Although wide range of procedures is presented, the collection is nevertheless selective over chosen for simplicity and reliability. Isotopic ultrafiltration and electrodeless techniques are not covered. The greater part of the space is given to sections four through seven. In these parts the descriptions of individual techniques are explained under the following subheadings: (1) technique, (2) principles, (3) apparatus, (4) reagents, (5) control, (6) determination of results, (7) general comments for calculating the results, (8) procedures, in addition to one or more literature references for each method, there are general references for each section.

GOODALE RAYMOND HAMILTON

Clinical interpretation of laboratory tests. Second edition. 107 illustrations—3 in color Philadelphia: F. A. Davis Company 1952 605 p. illus. (part col d) 24 cm. \$6.50. 980

Contents (abridged) Part I, Body fluids, secretions, and excretions. Section I, Hematology. Blood chemistry. Serum. Urine. Gastric and duodenal contents. Cerebrospinal fluid. Sputum. Feces. Transudates and exudates. Sputum. Blood metabolic tests. Tests for liver and kidney function. Bacteriological examinations. Rheumatic and venereal. Mycological examinations. Skin tests. Technologic examinations. Part II, Diseases with associated laboratory findings. The blood and hematopoietic system. The respiratory system. Gastrointestinal tract and pancreas. Liver and biliary tract. The endocrine system. Endocrine glands. Central nervous system. Bacteriological diseases. Vitamin deficiencies. Metabolic disorders. Index.

Note: A reference manual of specific information about diseases in the diagnosis of which laboratory tests are used and about the procedures and interpretations of the results of diagnostic laboratory tests. Researcher more space is given to background information than to actual technical procedures. Literature references are included. The book is useful to general practitioners of medicine, clinicians, and hospital laboratory technicians. The first edition was published in 1949.

HEPLER, OPAL E.

Manual of clinical laboratory methods. Fourth edition, revised third printing. With a foreword by James P. Simonds Springfield, Illinois: Charles C. Thomas 1951 387 p. illus. 28 cm. \$9.50 981

Contents: Urinalysis. Hematology. Gastric and duodenal contents. Liver function tests. Feces. Sputum. Cerebrospinal fluid. Body fluids. Pregnancy tests. Bacteriology. Mycology. Serology. Blood gases. Clinical chemistry. Adrenal extracts. Tissue smearing. Blood smears. Electrocardiography. Sections used in routine tests. Index.

Note: A standard reference book of methods useful in hospital and other laboratories where chemical tests are made. Although in most instances only one method for particular determination is described, wide range of tests is covered. Procedures are described specifically usually in numbered steps. However the interpretation of results is not covered. More than 30 tables of reference data are included. The book was developed originally for use by

medical students in the Medical School of Northwestern University but it is suitable also for the guidance of laboratory technicians who are not medical graduates. The first three editions were not published consecutively.

KOLMER, JOHN ALBERT

Clinical diagnosis by laboratory examinations. Second edition. New York: Appleton-Century-Crofts, Inc. 1949 1212 p. illus. 25 cm. \$12.00 982

Contents (abridged) Part One, The clinical interpretation of laboratory examinations: Blood examinations. Urine examinations. Blood chemistry examinations. Ocular examinations. Kidney function tests. The basal metabolic rate and the iodine tolerance test. Test of gastric secretions. Liver function tests and examinations of the bile. Examination of the saliva and sputum. Examinations of the stomach, duodenal contents and pancreatic function tests. Parasitologic examinations. Cerebrospinal fluid examinations. Bacteriologic examinations. Mycologic examinations. Serologic examinations. Immunologic and allergic skin tests. Examinations for barbiturates and rhubarb. Part Two, The practical applications of laboratory examinations in clinical diagnosis: Diseases of the blood and hematopoietic system. Diseases of the kidneys and urinary system. The vascular diseases. Diseases of the stomach, intestines and pancreas. Diseases of the liver and biliary tract. Diseases of the cardiovascular system. Diseases of the respiratory tract. Diseases of metabolism. Diseases of vitamins deficiency. Diseases of the endocrine glands. Part Three, Technical laboratory examinations: Blood examinations. Urine examinations. Blood chemistry examinations. Fractional examinations. Examinations of gastric contents. Fecal examinations. Arterial fluid examinations. Bacteriologic examinations. Serologic examinations. Index.

Note: (1952) A comprehensive work on the use of laboratory tests and findings in the diagnosis of diseases. The first part—in which diseases are covered by classes and individually—is 616 pages long in this edition. The second part also is addressed to the clinician rather than the laboratory technician and it occupies an additional 510 pages. The third part is on the technique of the laboratory in need of but relatively gives sections. The book is very useful as a complementary work to standard texts on internal medicine, because of its particular emphasis on laboratory diagnosis. The first edition was published in 1944. Fairly extensive revisions were made in preparing this edition.

KOLMER, JOHN ALBERT AND OTHERS

Approved laboratory technic. By John A. Kolmer Earle H. Spaulding and Howard W. Robinson. Fifth edition with 403 illustrations and 28 color plates. New York: Appleton-Century-Crofts, Inc. 1951 1180 p. illus. (part col d) 25 cm. \$12.00 983

Contents (abridged) Part One, General laboratory methods: The microscope and methods of microscopy. Diseases of animals and methods for the care, inoculation and bleeding of animals. Part Two, Clinical pathologic methods: Methods for the examination of the blood, by C. J. D. Zerkow. Methods for conducting kidney function tests. Methods for the examination of stomach contents. Methods for conducting liver function tests. Methods for conducting pancreatic function tests. Methods for the examination of cerebrospinal fluid. Methods for the examination of the blood and urine for bacteria. Part Three, Bacteriologic, mycologic and virologic methods: Methods for the collection and handling of specimens. Methods for the preparation of culture media. Diagnostic bacteriologic methods. Methods for the preparation of bacterial vaccines. Methods for testing disinfectants. Diagnostic mycologic methods. Part Four, Parasitologic methods. Part Five, Serologic methods: Methods for the preparation and preservation of plasma and serum. Methods for conducting hemagglutination and blood grouping tests, by L. Davidson. Methods for conducting serologic and allergic skin tests. Part Six, Chemical methods: Colorimetric methods. Methods for the preparation of standard reagent solutions. Determination of blood metabolic rate. Methods for chemical examinations of urine and diabetic acids. Methods for toxicologic examinations. Part Seven, Pathologic methods. Appendix. Index.

Note: (1954) A comprehensive manual of medical laboratory methods of general value. It contains wide range of information on equipment, care of laboratory animals, laboratory methods of various kinds, and the preventive and emergency treatment of laboratory accidents. In its present edition the work has been very extensively revised. Many new methods have been added. The

Authors are members of the faculty of Temple University School of Medicine.

LEVINSON, SAMUEL AZOR, AND ROBERT P MACFATE

Clinical laboratory diagnosis. Fourth edition, thoroughly revised, with 221 illustrations and 13 plates 10 in color Philadelphia Lea & Febiger 1951 1146 p. illus. (part col'd) 24 cm. \$12.00 984

Contents: The mouth. The stomach. The duodenum and related organs. The intestine. Metabolism. Chemical analysis of the blood. The kidney. Chemical analysis of the urine. Hematology. Immunology and serology. Cerebrospinal fluid. Transudates and exudates. General bacteriology. The spectrum. Skin tests and other biologic combinations. Laboratory methods in pediatric diseases. Tropical diseases. Milk and water analysis. Bacteriologic technique. Legal medicine and toxicology. Appendix. Index.

Note: (151) A standard work, outstanding for its comprehensiveness and its detailed descriptions of laboratory procedures. It is based on the methods currently used in the laboratories of the University of Illinois Research and Educational Hospitals. This fourth edition is considerably larger than the previous ones, although the general plan has not been changed. The chapter on hematology and the section on toxicology have been entirely rewritten, and important revisions made in other parts of the book. There are also more illustrations and references to the recent literature have been added.

LOW BEER, BERTRAM V A.

The clinical use of radioactive isotopes. Springfield, Illinois Charles C Thomas 1950 414 p. illus. (part col'd) 24 cm. \$10.50 985

Contents: Part I. Physics. The physical nature of the atom. Mass, energy and change relations of atoms. Radioactivity. Detection and measurement of radioactivity. Radioactivity units and standards. Biological and clinical hazards in the use of radioisotopes. Bibliography of part I. References for part I. Part II. Clinical applications. Clinical investigations with radioactive isotopes. Dosage determinations with radioactive isotopes. Radioisotope therapy. Bibliography of part II. References for part II. Appendix. Index.

Note: This textbook is introductory in the sense that no previous acquaintance with the principles of radioactivity on the part of the reader has been assumed. On the other hand, the medical terminology employed makes it useful only to advanced students of medicine, medical practitioners, and other persons familiar with clinical terminology and techniques. The first part, which accounts for approximately one-third of the text, is devoted to the physics and other background aspects. The second part contains specific information on clinical applications. The book is based largely on literature survey and list of references included contains 337 citations. There are 34 figures, several of which are colored. The author is Associate Professor of Radiology in the Medical School of the University of California.

MERCK AND COMPANY INC

The Merck manual of diagnosis and therapy a source of ready reference for the physician. Eighth edition. Rahway N J Merck & Co. Inc. 1950 1592 p. 18 cm. \$5.00 986

Contents: Part I. Allergy. Blood and lymphatic. Cardiovascular. Deficiency and metabolic. Dental and oral. Ear, nose and throat. Endocrine. Eye. Gastrointestinal. Gastrovascular. Gynecologic and obstetric. Infections and parasitic. Liver and biliary. Musculoskeletal. Nervous system. Neuropsychiatric and psychosomatic. Physical and chemical. Respiratory. Skin and connective tissue. Vascular. Part II. Routine immunization procedures. Clinical procedures. Bedside procedures. Preoperative and postoperative tests. Diet. Office laboratory procedures. The physician. The alternative pregnancy preparation. Ready reference guide. Part III. Index.

Note: A long-established manual of quick reference for general practitioners. Diagnosis and treatment are emphasized. Surgical procedures are not covered. Most of the concise monographs under specific diseases are organized under the following headings: etiology and pathogenesis, symptoms and signs, laboratory findings, treatment. Prescriptions for medicine are included. The present edition represents complete tracking and major expansion of preceding editions.

NEW YORK ACADEMY OF MEDICINE. SECTION ON MICROBIOLOGY

Diagnosis of viral and rickettsial infections.

Symposium held at the New York Academy of Medicine, January 29 and 30, 1948 Edited by Frank L. Horsfall, Jr New York Columbia University Press 1949 153 p. illus. 24 cm. \$3.75 987

Contents: Introduction, by F. L. Horsfall, Jr. Laboratory diagnostic procedures for influenza, by G. K. Hirst. The diagnosis of mumps, by G. Hanks and W. Hanks. The diagnosis of infections caused by the paramyxovirus group of viruses, including tracheitis and infectious mononucleosis, by G. K. Hanks. The diagnosis of primary atypical pneumonia, by F. L. Horsfall, Jr. The diagnosis of varicella virus infections, including the viral exanthemas, by F. L. Horsfall, Jr. The diagnosis of measles, by J. C. Cook and P. K. Cook. The diagnosis of infection with the virus of herpes simplex, by T. F. M. Scott and others. The diagnosis of rubella, by H. H. Johnson. The diagnosis of dengue, by R. W. Schellman. The diagnosis of infectious mononucleosis, by J. E. Paul. The diagnosis of epidemic typhus, and scrub typhus, as well as Q fever, by J. E. Paul. The diagnosis of Rocky Mountain spotted fever and rickettsialpox, by H. E. Cox. The diagnosis of infectious hepatitis, by W. F. Horne, Jr.

Note: A collection of original papers presented at the section introduced in the book's title. Many of the authors have themselves made contributions to the knowledge of viral and rickettsial infections and some of the information included has not been previously published. The lectures were intended for practitioners of medicine and other graduate scientists with professional interests in the subject. Each paper is accompanied by list of literature references, but there are no indexes.

SUNDERMAN, FREDERICK WILLIAM, AND FREDERICK BOERNER

Normal values in clinical medicine. Philadelphia W B Saunders Company 1950. 845 p. illus. (part col'd) 26 cm. \$15.00. 988

Contents (abridged): Section I. Circulatory system (normal values in circulation). Electrocardiogram. Roentgen cardiac measurements. Circulation time. Blood pressure. Section II. Chemical components and physical properties of blood (normal values in blood, serum, for fluids and lymph). Protein and nonprotein components of blood plasma. Blood sugar. Lipids. Hemoglobin, porphyrins and related compounds. Blood vitamins. Body fluids. The lymph. Enzymes and miscellaneous constituents of the blood. Section III. Digestive system (normal values in gastroenterology). The esophagus and stomach. The small intestine. The colon. The liver. The gallbladder. The pancreas. Section IV. The nervous system (normal values in neurology). Neurophysiology. The craniofacial head. Section V. Endocrine (normal values in endocrinology). Androgens and 17-ketosteroids. Estrogens. Prostaglandins. Gonadotropin hormones. Section VI. Teeth and saliva (normal values in dentistry). Functions and growth of teeth. Chemistry of teeth. Relative hardness of teeth. Section VII. Urinary system (normal values in clinical nephrology). Fluid volume. Drugs and their doses. Lactation. Life and seasonal tables. Appendix. Tables of weights, measures and standards. Index.

Note: A reference book of wide scope. There are 400 tables, most of which are several pages in length, and 327 figures. These present presentations of data are supplemented by considerable verbal discussion. Some sections, for instance the chapter on normal body temperature, contain entirely of verbal discussion and laboratory references. Both the discussions and the tabulated data have been carefully given. In selecting the material the authors had the assistance and advice of an impressive group of collaborators.

DIAGNOSIS

BRUST, RAYMOND W

Physical diagnosis. Introduction by Truman G Schnabel. New York Appleton-Century-Crofts Inc., 1951 294 p. illus. 22 cm. \$5.00 989

Contents (abridged): Part one, Orientation. Part two, The body in general. Part three, The pulmonary system. Part four, The central

vascular system. Part 4th. The gastrointestinal system. Part 4th. The nervous system. Index.

Note: A concise text on diagnostic techniques such as can be carried out in the physician's office without resort to laboratory tests. The discussion is not direct and specific. The material is arranged logically, and liberal use has been made of photographs and sketches to facilitate rapid study and reference. There are 60 illustrations. The author is a member of the faculty of the Medical School of the University of Pennsylvania.

KAMPFMEYER, RUDOLPH HERMAN

Physical examination in health and disease. With 550 illustrations 1 in color Philadelphia F. A. Davis Company 1950 821 p. illus. (part col d) 24 cm. \$8.00 990

Contents (abridged): The case history. The body in action, by W. F. Ott. The general survey. The head. The neck. The breast. The chest. The heart and blood vessels. The abdomen. The genitals, perineum, rectum. Musculoskeletal system and extremities. Index.

Note: A textbook for use in first courses in the subject in medical colleges. The exposition of normal and abnormal conditions have separate chapters in sections that facilitate study. Also, the textual discussions are shorter and more explicit than in some of the older, more voluminous texts. A majority of the illustrations are reproductions of photographs. The author is a member of the faculty of the Vassar College University School of Medicine.

LEOPOLD SIMON STEIN

The principles and methods of physical diagnosis correlation of physical signs with physiologic and pathologic changes in disease. 390 illustrations with 19 color plates. Philadelphia W. B. Saunders Company 1952 430 p. illus. (part col d) 24 cm. \$7.50 991

Contents: General data. Examination of the head. Examination of the neck. Examination of the musculoskeletal system. Examination of the breasts. Remarks from the thoracic-circulatory principles (by R. R. Warren, Jr.). Examination of the chest. Palpation of the chest. Percussion of the chest. Auscultation of the chest. Physical signs in certain diseases of the lungs and pleura—circulatory data. Examination of the circulatory system. Physical signs in certain diseases of the heart and great vessels—circulatory data. Examination of the abdomen. The gastrointestinal tract. Examination of the male genitalia, and of the urethra, testes and rectosigmoid colon. Examination of the ear, nose, throat and larynx. Examination of the skin. Examination of the endocrine system. Neurological examination. Psychiatric survey. The history index.

Note: A medical college textbook in which the underlying principles and the basic routine of physical diagnosis are emphasized rather than clinical associations of diseases. A concise, clearly written text is supplemented by a large number of illustrations, many of which are reproductions of photographs. The author is Associate Professor of Clinical Medicine at the School of Medicine of the University of Pennsylvania.

MACBRYDE, CYRIL MITCHELL, editor

Signs and symptoms applied pathologic physiology and clinical interpretation Second edition. With 98 illustrations, 50 charts and 8 color plates. Philadelphia J. B. Lippincott Company 1952 783 p. illus. (part col d) 24 cm. \$10.00 992

Contents: Introduction, by C. M. MacBryde. Pain, by C. M. MacBryde. Headache, by H. G. Wolff. Sore throat and sore mouth, by R. W. Vitek. Thoracic pain, by J. R. Smith and R. F. Paine. Abdominal pain, by R. M. Jacobs. Backache and back pain, by R. H. Freyberg. Joint pain, by R. H. Freyberg. Pain in the extremities, by R. D. Williams. Chilled fingers and hyperpnea autonomicity, by R. A. Levine and R. M. Jacobs. Palpitation and tachycardia, by R. M. Jacobs. Cough, by D. M. Shilling. Hemoptysis, by D. M. Shilling. Dyspnea, by D. P. Barr. Cynosis, by D. P. Barr. Anemia, nausea and vomiting, by J. L. Hirsch. Constipation and diarrhea, by J. L. Hirsch. Hemorrhage and melena, by L. Schiff. Jaundice, by S. A. Paria. Nervousness and fatigue, by E. F. Cohen. Fever, by F. B. Benson. Disturbances of consciousness and of muscle movement, by W. G. Luzzati. Fainting, by R. A. Reed. Urinary and excretory, by H. H. Hyland. Dehydration, by C. M. MacBryde. Edema, by H. A. Schroeder.

Obesity, by C. M. MacBryde. Weight loss and undernutrition, by C. M. MacBryde. Pathologic bleeding, by R. Alexander. Pigmentation of the skin, by R. J. Rogers and R. A. Edwards. Itching (pruritus), by R. K. Rothman and A. L. Shapiro. Index.

Note: (834*) A textbook and practical guide to physical diagnosis in medicine. It is composed of series of original monographs which deal separately with the interpretation of various signs or types of pain and other symptoms and signs. The discussions are systematic and concise. Each chapter is accompanied by selected bibliography of literature in which fuller discussions of particular points are to be found. The first edition appeared in 1947. In this edition four new chapters have been added, and many of the chapters carried over have been extensively revised and extended.

TASERMAN, ISAAC SAMUEL

The eye manifestations of internal diseases (medical ophthalmology) Third edition. With 279 illustrations including 25 in color St. Louis The C. V. Mosby Company 1951 672 p. illus. (part col d) 25 cm. \$12.50 993

Contents: Normal structure of the eye and orbit. The general course of eye manifestations. The examination of the patient. Structural abnormalities and manifestations. Congenital and hereditary eye manifestations. Infections and infectious diseases. Tuberculosis. Vernal and related conjunctivitis. Trachoma. Ocular parasites and parasitic infections. Fungal infections. Drug and chemical toxicities. Diseases of the cardiovascular system. Diseases of the blood. Diseases of endocrinology and pregnancy. Diseases of the endocrine glands and metabolism. Autoimmune and diseases of nutrition. Diseases of the nervous system. Intracranial pressure. Diseases of the skull. Diseases of bones of the skull and orbit. Index.

Note: (641) The primary purpose of this treatise prepared for the ophthalmologist as well as for practitioners in other medical fields is to facilitate diagnosis of the very large number of conditions in which the eye may be involved. Preliminary chapters on anatomy and diagnostic manifestations of patients are followed by chapters containing graphic and detailed descriptions of eye abnormalities and signs which may be seen in certain diseases. The eye is considered as part of the body in connection with eye conditions in systemic diseases. There are no notable changes in the overall plan of the third edition in comparison to the preceding editions. However, the length of the book has been substantially increased by the addition of new material on retinoblastoma, Horner's disease, Rubein's syndrome, rubeola, acute anterior poliomyelitis, Hutchinson's syndrome, and other diseases. The discussion of glaucoma has been completely rewritten. Additions have been made to the bibliography and to the illustrations.

WALKER, HARRY

Physical diagnosis. With 126 illustrations. St. Louis The C. V. Mosby Company 1952 461 p. illus. 26 cm. \$8.00 994

Contents (abridged): Physical diagnosis. Diseases of the respiratory system, by R. E. Roy. Diseases of the circulatory system, by R. E. Porter. Index.

Note: A textbook for use in medical colleges. The author emphasizes that physical examination is still the foundation for diagnosis. He states that when the physical examination is well done, the next step in determining the diagnosis can be taken with more logic and the diagnosis can be arrived at in a more direct manner. The more one knows about physical diagnosis, the better diagnoses he is certain to be. The first section of the book is divided into 16 chapters, most of which deal with the examination of characteristic signs such as heat, or rashes such as the thorax. In the section on the abdomen was written by H. G. Long. The chapter on diagnosis of brain and eye diseases was written by R. H. Hagen; that on neurologic examinations by R. A. Adams and the chapter on psychiatric examinations by P. H. Drury. Each section also contains one chapter on such topics as the diagnosis of the abnormalities of the heart and the diseases of the pericardium. Throughout the book the examination techniques are described step by step and the significance of physical signs is indicated.

PATHOLOGY

APPELBY FRANK LONGSTAFF

Patterns of disease on a basis of physiologic pathology 50 figures and 37 charts. Philadelphia J. B. Lippincott Company, 1951 456 p. illus. 24 cm. \$8.00. 995

Contents. Life and Death. Pathology the science of disease. The positive changes in disease—atrophy and its disturbances—disturbances of the peripheral circulation. The reactive changes to injury—the local reaction—histamine—the general reaction—leukocytosis, fever and toxolemia—the local reaction—repair, infection and resistance. Some special types of inflammation—the reaction to certain other body tissues. Regeneration and certain degenerative changes. Hypertrophy and hyperplasia. Tumors. Cysts. Diseases of the cardiovascular system. Diseases of blood and the organs of blood formation. Diseases of the urinary system. Diseases of the respiratory system. Diseases of the gastro-intestinal tract and the peritoneum. Diseases of the liver and the gallbladder. Diseases of the pancreas. Diseases of the female reproductive organs. Diseases of the breast. Diseases of the male reproductive organs. Diseases of the endocrine system. Diseases of the ductless glands. Diseases of the locomotor system. Disease and the race. Index.

Note: An unconventional but useful presentation of pathology. The detailed descriptions of diseased tissues and the numerous illustrations that are features of most texts on pathology are largely lacking. The author has devoted his attention to the beginnings and progressions of diseases and to the compensatory mechanisms and maladjustments by the body. Descriptions of specific diseases and pathological conditions are short but in a style that is easy to read. The author is Professor of Pathology at the Medical College of Virginia.

BELL ELEXIOUS THOMPSON

A text-book of pathology by E. T. Bell. Contributors: B. J. Clawson and J. S. Mc Cartney. Seventh edition enlarged and thoroughly revised with 529 illustrations and 5 color plates. Philadelphia: Lea & Febiger 1952. 1008 p. illus. (part col'd) 24 cm. \$12.00 996

Contents: Introduction. Predisposition to disease. Mechanical injuries. Injuries due to physical agents. Injuries due to chemical agents. Diseases due to deficiency of vitamins. Circulatory disturbances. Retrogressive tissue changes. Infestations. Tuberculosis. The venereal diseases. Other chronic infectious diseases. The systemic or fungus infections. Bacterial diseases. Tumors. Diseases of the blood. Certain diseases caused by animal parasites. Diseases of the lymphatic and lymph nodes. Diseases of the spleen. Diseases of the respiratory system. Diseases of the digestive system. Diseases of the pancreas. Diseases of the liver and gall bladder. Diseases of the heart. Diseases of the blood-vessels. Diseases of the urinary system. Diseases of the reproductive organs of the male. Ophthalmological pathology. Diseases of the ductless glands. Neuropathology. Diseases of the bones and joints. Index.

Note. (1947) A long-established text for medical college students. It is used also as an office reference book by graduate physicians. The descriptions of the pathology of specific diseases are very concise, but they are adequately supplemented by illustrated text and by references to the literature. The sixth edition was published in 1947. This edition is basically the same but considerable part of the contents has been rewritten. The length of the book has been increased by about 90 pages, 44 illustrations have been added and 17 that appeared in the preceding edition has been dropped. A selection of the recent literature has been added to the bibliography.

FORBES WILEY DAVIS

Reaction to injury pathology for students of disease. Volume II. The reactions of submission and adaptation and the disease entities arising out of their elaboration. 836 illustrations 54 of which are in color. Baltimore: The Williams & Wilkins Company 1952. 1110 p. illus. (part col'd) 26 cm. \$20.00 997

Contents (abridged). Part three. The submissive reaction to injury and the disease entities arising therefrom—disturbances in metabolism and function with and without structural alterations of the tissues. Section one. Disturbances in function and metabolism of cells and tissues with and without their structural alteration. Section two. Disturbances in organ and systemic function and metabolism with and without structural alterations of the organs. Section three. Disturbances in function and metabolism related to the process of growth and development. Part four. Reaction to injury through adaptation—functionally and structurally adaptive, sometimes compensatory reactions of cells, tissues and organ systems following injury. Section

one. Applications of the principles of adaptation in the study of disease. Section five. Adaptive reactions following injury to the circulatory system. Section three. Adaptive reactions following injury to the respiratory system. Section four. Adaptive reactions following obstruction to the passage of body fluids into and through the various tissues. Index.

Note: (1934) The second and concluding volume of an unusual treatise on pathology. The author states that "Science is master of the observed outcome of constantly changing relations between the organisms themselves and the cell, and its environment." stated another way, Science is a matter of synthesis and quantitative reaction of an individual to environmental stimulus. A wide range of pathological conditions is covered from this viewpoint and most of the conditions are described in fair detail. Extensive literature references are included. The number of illustrations cited in the title applies to Volume II rather than to the whole work. The author is Professor of Pathology in Duke University Medical School.

KARSNER, HOWARD THOMAS

Human pathology. Seventh edition. 562 illustrations in black and white and 22 subjects in color on 14 plates. Philadelphia: J. B. Lippincott Company 1949. 927 p. illus. 26 cm. \$12.00 998

Contents: Part One, General pathology. General phenomena of disease. Pathologic pigmentation. Degeneration and infarction. Necrosis and necrotic death. Mineral metabolism and osmolarity. Atrophy. Disturbances of circulation. Inflammation. Principles of infectious diseases. The infectious granulomas. Immunity. Tissue changes. Tumors. Pathology of special tissues. Part Two, Systemic pathology: The cardiovascular system. The hematopoietic system. The respiratory system. The alimentary canal. Liver and pancreas. The urinary system. The genital system. The ductless glands. The organs of locomotion. The nervous system. The eye and adnexa. The skin. Index.

Note: (1931) A standard and long established work, well built up by text in medical colleges and as an office reference book by physicians and surgeons. The scope is comprehensive with both conceptual emphasis and the pathology of diseases included, and new conditions as well as common ones. The sixth edition was published in 1943. The seventh edition represents very extensive revision, in which is reflected the substantial advances gained during World War II and in subsequent years. Two new chapters have been added. About one-third of the illustrations are new and about 500 literature references have been added.

MENKIN VALY

Newer concepts of inflammation. Springfield, Illinois: Charles C. Thomas 1950. 145 p. illus. 22 cm. (American lecture series. Publication no. 70. A monograph in American lectures in dentistry, edited by Edward J. Ryan) \$3.50 999

Contents: The problem of increased capillary permeability in inflammation. The role of the hydrogen ion concentration in the development of the inflammatory reaction. The role of inflammation in immunity. Phagocytosis. Chemical factors in inflammation. Disturbances in inflammation. The causes of fever and of leukocytosis in inflammatory conditions. Repair. Regeneration and conclusions. Index.

Note. (1931) Supplementary to the author's *Dynamics of Inflammation*. New York, 1940, this relatively short book is devoted mainly to the biochemistry of inflammation and especially to the biochemical products of injured cells. The chapter on the role of inflammation in immunity also covers developments of recent years. Extensive bibliography of the recent literature are included.

MILLER, SEWARD ELMORE, editor

A textbook of clinical pathology (Formerly edited by Roy R. Kracke and Francis P. Parker) Fourth edition. Baltimore: The Williams & Wilkins Company 1952. 1060 p. illus. (part col'd) 24 cm. \$9.00 1000

Contents: Blood techniques, by L. W. Dyer. Blood cell—hematocrit examination, by L. W. Dyer. Anemia, erythrocytosis, leukocytosis, and abnormal hemoglobin compounds, by L. W. Dyer. Laboratory tests used in the diagnosis and management of hemor-

rhagic and thromboembolic diseases, by L. W. Dugg. Diseases primarily affecting leucocytes, by L. Davidson. Blood groups, by L. Davidson. Blood chemistry, by C. Calk and A. Kaplan. Liver function tests, by S. E. Miller. Renal function tests, by S. E. Miller. Immunologic tests, by R. McRaney. Bacteriologic examination of blood and feces, by R. McRaney. The assay of chemotherapeutic and antibiotic agents, by A. Miller. Diagnosis of viral and rickettsial diseases, by A. Miller. Blood parasites, by S. E. Miller. Intestinal parasites—feces, by S. E. Miller. The assay of vitamins, by E. van Hoesen. The assay of hormones, by E. van Hoesen. Examination of transudates, exudates, sputa and secretions, by E. van Hoesen. The diagnosis of venereal diseases, by E. van Hoesen. Syphilis serology, by S. E. Miller. Cardiovascular fluid, by S. E. Miller. Urine and sputum fluid, by S. E. Miller. Sputum, by S. E. Miller. Gastric and duodenal contents, by S. E. Miller. Index.

Notes. (541) This fourth edition of this standard work has been extensively revised. Much new space is now given to descriptions of technical procedures in laboratories and more attention is paid to the selection of tests and to the interpretation of laboratory reports. Simple tests such as can be made in a physician's office are still described in detail. Three new chapters have been added and most of the others have been rewritten. Also many new illustrations have been added.

MOORE, ROBERT ALLAN

A textbook of pathology pathologic anatomy in relation to the causes pathogenesis, and clinical manifestations of disease. Philadelphia W B Saunders Company 1951 1048 p. illus. (part col d) 26 cm. \$13.00 1001

Contents (abbreviated). Part I, General pathology. Disturbances in the metabolism of proteins. Disturbances in the metabolism of carbohydrates. Disturbances in the metabolism of lipids. Disturbances in the safety of the blood. Lymphocytosis. General pathology of tissues. Part II, Diseases caused by living agents. Pathology of the skin—bacteria, spirochetes. Empyema or abscesses. Lesions of infection—bacteria. Pathology of injury the alimentary canal—bacteria, spirochetes. Venereal diseases—bacteria, spirochetes, viruses. Microfilariae infections. Part III, Diseases caused by physical agents. Diseases caused by physical trauma. Diseases caused by changes in atmospheric pressure. Diseases caused by radiant energy. Part IV, Diseases caused by chemical agents. Part V, Diseases caused by deficiencies. Part VI, Diseases of pregnancy and of the neonates of life. Part VII, Diseases of unknown or obscure cause—systemic pathology. The alimentary and respiratory tracts. The cardiovascular system. Rheumatic fever—complications and sequelae. Bright's disease—renal insufficiency. The blood-forming tissues. The endocrine glands. The reproductive organs. The nervous system. The musculoskeletal system. The teeth, ear, eye and skin. Index.

Notes: A medical college textbook of wide scope. By tracing the subject from the standpoint of disturbances of metabolism, the author has given more than the usual emphasis to the physiologic and chemical aspects of pathology. As the sections and chapter titles show diseases of known cause are arranged by cause and partial of injury and diseases of unknown or obscure cause are grouped according to the organs or systems which they affect. The descriptions of the individual diseases are very concise. However, literature references classified by disease are included in the chapters. The first edition was published in 1945. In the second edition new chapters have been added on several subjects, including diseases peculiar to the aged, and many paragraphs and longer sections have been added to other sections. Also there has been considerable rearrangement. Further literature published since 1945 has been added to the bibliography.

NEUBERGER, KARL THEODORE

Atlas of histologic diagnosis in surgical pathology. With a section on Exfoliative cytology by Walter T. Wike. Photography by Glenn E. Mills. Baltimore The Williams & Wilkins Company 1951 460 p. illus. 26 cm. \$11.00. 1002

Contents: Skin and subcutaneous tissues. Lymph nodes. Spleen. Muscles and fascia. Bones, joints, cartilage and meninges. Peritoneal structures. Larynx and trachea. Bronchi and lungs. Pleura. Thyroid. Thyroid parathyroid. Pancreas—pancreatic islets. Central body. Ovary. Salivary glands. Testis. Esophagus. Stomach. Intestines. Appendix. Peritoneum. Liver. Gall bladder. Pancreas. Adrenal. Kidneys and ureters. Urinary bladder and urethra. Prostate. Male genitalia except prostate. Uterus. Fallopian tubes. Ovary. Vagina and vulva. Breast. Meninges (cranial). Brain. Spinal cord and spinal

meninges. Pituitary. Peripheral and sympathetic nervous systems. Blood vessels. Eye. Ear. Exfoliative cytology. Vaginal tract. Respiratory tract. Gastrointestinal tract. Urinary tract. Body fluids. Supplemental Index.

Notes: A comprehensive work in which the author has endeavored to include microphotographs that exhibit all the common lesions observable in tissues. Rare conditions have been omitted; nevertheless considerable range of material has been included for all of the principal systems and organs. The special sections on exfoliative cytology pertain to the interpretations of smears. Each of the 330 figures is accompanied on the same page with short descriptions in which diagnostic features are emphasized. The author is Professor of Pathology in the School of Medicine at the University of Colorado.

UNITED STATES NAVAL MEDICAL SCHOOL

Color atlas of pathology Prepared under the auspices of the U S Naval Medical School of the National Naval Medical Center Bethesda, Maryland. Illustrated with 1053 figures in color on 365 plates. Philadelphia J B Lippincott Company 1950 546 p. illus. (col d) 25 cm. \$20.00 1003

Contents: Diseases of the hematopoietic system. Diseases of the reticulo-endothelial system. Diseases of the respiratory tract. Diseases of the cardiovascular system. Diseases of the alimentary tract. Diseases of the liver. Diseases of the kidney and urinary tract. Diseases of the musculoskeletal system. Index.

Note. The wide range of colored illustrations makes this work unique. Each of the chapters is divided into "descriptive survey" and color atlas. The descriptive survey is a compact summary of the diseases of specific physiological systems. The color survey consists of reproductions of colored photographs of gross and microscopic pathological specimens. These are reproduced twice on the page and in the color column. The lesser column is occupied by concise but specific descriptions of the illustrations. The book was prepared over a considerable period of years at the National Naval Medical Center. Evidently it is a reference volume of interest to pathologists, diagnosticians, and medical practitioners in all fields.

YEAR BOOK OF PATHOLOGY AND CLINICAL PATHOLOGY

The 1951 year book of pathology and clinical pathology (January-December 1951) Pathology edited by Howard T. Karsner Clinical pathology edited by Arthur Hawley Sanford. Chicago The Year Book Publishers, Inc., 1952 454 p. illus. 20 cm. \$5.50 1004

Contents: Pathology—General pathology Cardiovascular system. Hemopoietic system. Respiratory system. Alimentary tract and associated glands. Urinary system and male genitalia. Female genitalia and breast. Glands of internal secretion. Bones and muscles. Skin. Nervous system and eye. Clinical pathology Hematology Chemistry Bacteriology Mycology Serology Conventional field. Parasitology. Abnormal cytology—microbiology Microscopy Apparatus. Index. Index to authors.

Notes: (870*) As in the related books issued by the publisher this annual is designed to provide digest and key to the significant literature in the field published in the world's medical periodicals during the period noted in the title. The chapters consist chiefly of abstracts of fair length. Some abstracts are supplemented by notes written by the editor. The items at hand consist of a special feature four digest articles. There are 147 figures.

PHARMACOLOGY AND TOXICOLOGY

AMERICAN MEDICAL ASSOCIATION COUNCIL ON PHARMACY AND CHEMISTRY

Epitome of the Pharmacopoeia of the United States and the National Formulary with comments. Ninth edition. Philadelphia J B Lippincott Company 1951 255 p. 20 cm. \$2.50 1005

therapy of localized and these infections, by K. K. Sanders and J. S. Lockwood. Chemotherapy of nonneoplastic infections and of bacillary dysentery, by F. A. Chenier. An evaluation of chemotherapeutic drugs, by J. A. Blanton. The chemotherapy of tick infestation, by J. A. Blanton. The chemotherapy of viral infections, by F. L. Marshall, Jr. and H. B. Glazebrook. The experimental evaluation of chemotherapeutic agents in cancer, by C. C. Stock and C. P. Rhoads. The clinical evaluation of chemotherapeutic agents in cancer, by D. A. Karnofsky and J. H. Burchenal.

Note. A collection of original papers prepared for the symposium issued in the book's title. The symposium was planned as a general evaluation of chemotherapeutic drugs and as a general presentation of preliminary techniques in relation to particular groups of diseases. No attempt was made to assess the value of specific substances, for example, penicillin. The papers are addressed to graduate workers in fields connected with chemotherapeutic agents, particularly medicine. Each paper is accompanied by literature references. There is no index to the volume.

SALTER, WILLIAM THOMAS

A textbook of pharmacology principles and application of pharmacology to the practice of medicine. Philadelphia W B Saunders Company 1952 1240 p. illus. 26 cm. \$13.00 1023

Contents (abbreviated) Part I. General principles of pharmacology. Part II. Drug action on physiological mechanisms. Section I. The action of poisons and sensory disturbances. Section II. General considerations. Section III. Cardiovascular and renal. Section IV. Drugs acting on the endocrine system. Section V. Endocrine and metabolic regulation. Section VI. The autonomic nervous system. Part III. The application of drugs in clinical medicine. Section VII. Drugs and body systems. Section VIII. Toxic substances of industrial and human origin. Section IX. Chemotherapeutic and chemoprophylactic agents. Part IV. Toxicology. Epilogue. Index.

Note. The material in this text has been judiciously selected from the standpoint of what is valuable to present-day medical students and physicians. Throughout, the book is large one with about 800,000 words of text. Information is included on background subjects such as the development of pharmacological knowledge and the development of our knowledge of drugs, but most of the space is given to discussion of the pharmacological principles of specific drugs and groups of related drugs. In the drug descriptions, the emphasis is on physiological effects and on what because of the drug in the human body but information is included also on the appearance and other properties of the drugs and on dosage. Most of the chapters contain as interesting sections called "unusual problems." The chapters are supplemented by substantial reference lists. The author is Professor of Pharmacology in the Yale University School of Medicine.

SOLOMON CHARLES

Pharmacology and therapeutics. With the collaboration of Elizabeth S. Gill. Sixth edition. 100 illustrations, many in color Philadelphia J B Lippincott Company 1952 656 p. illus. (part col'd) 21 cm. \$4.50 1024

Contents: Unit I. Introductory. Pharmacology (drugs and substances). Unit II. Drugs acting on the skin and the mucous membranes. Antiseptics and disinfectants (anti-infective). Unit III. Drugs acting on the nervous system. Central nervous system. Central nervous system. Drugs affecting the peripheral nervous system. Drugs acting on the autonomic nervous system. Unit IV. Drugs used for their effect upon the respiratory tract. Unit V. Drugs which affect the heart and blood vessels. Drugs affecting the blood and blood-forming organs. Unit VI. Drugs acting on the alimentary tract. Unit VII. Drugs acting on the urinary tract. Unit VIII. Drugs acting on the reproductive system. Drugs affecting the temperature of the body. Unit IX. Specifics and so-called specific drugs. Substances affecting metabolism, nutrition and growth. Multiple products. Allergens. Hormones. Enzymes and enzyme systems. Toxicology. Miscellaneous therapeutics. Treatment of emergencies. Dosage of commonly used drugs. Glossary of the terms used in the text. Bibliography. General Index. Index of references. Index of subjects.

Note. Its purpose is to provide the general and specific knowledge of drugs and their uses that is necessary to serve as a companion with physicians and as prescribing and administering in accordance with the physician's orders. In the first few units, certain essential principles of pharmacology such as weights and measures and dosage are covered. Most of the remainder of the book is devoted to descrip-

tions of specific drugs, especially in regard to their properties, physiological actions, preparation, and dosage. The fifth edition was published in 1948 and was entitled *Pharmacology, physiology, medicine and therapeutics*. In this edition the book has been revised to conform to *United States Pharmacopoeia* and *National Formulary* 12. Many paragraphs and larger sections have been revised or entirely replaced with new material. Improvements have been made in the indexing of the book. Also the type has been reset and the book is now printed in a new two-column format.

TANNENBAUM ALBERT editor

Toxicology of uranium survey and collected papers. New York McGraw Hill Book Company Inc. 1951 333 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 23) \$4 75 1025

Contents: Part I. Introduction to the toxicology of uranium. Introduction and general considerations, by A. Tannenbaum and H. Silverman. History of uranium poisoning as observed in man, by A. Tannenbaum and H. Silverman. Factors affecting uranium poisoning, by A. Tannenbaum and H. Silverman. Distribution in the body and excretion of uranium, by A. Tannenbaum and H. Silverman. Gross and microscopic pathology of uranium poisoning, by A. Tannenbaum. Biochemical effects of uranium poisoning, by E. Schwartz. The mechanism of action of uranium and the transport of uranium to the tissues, by E. O. Rosten. Summary of experimental studies. Section on uranium poisoning in man, by A. Tannenbaum and H. Silverman. Part II. Collected papers. Uranium poisoning. Review of literature to 1947, by E. T. Caspell and J. L. Williams. Some aspects of the toxicology of uranium compounds, by A. Tannenbaum and H. Silverman. Failure to affect toxicity of ingested uranium chloride by dietary acid (HCl) or base (NaHCO₃), by A. Tannenbaum and H. Silverman. Accumulation of uranium in the tissues of mice ingesting uranyl nitrate, by A. Tannenbaum and H. Silverman. Relation of uranium excretion to the total amount of uranium in the tissues, by A. Tannenbaum and H. Silverman. Studies on absorbed uranium in man, by A. Tannenbaum and H. Silverman. Distribution of U in tissues of mice following injection of uranyl nitrate, by A. Tannenbaum and H. Silverman. Studies on the distribution and excretion of uranium in man, mice, and dogs, by A. Tannenbaum and H. Silverman. The transport of uranium to the tissues, by J. A. Mittle and E. O. Rosten. Toxic metabolism of mice treated with uranyl nitrate, by J. Meyer and others. The reversible inhibition of enzymes by uranyl, by T. F. Singer and others. Effect of uranium on the metabolism of yeast and bacteria, by J. A. Mittle and others. An introduction to the biochemical literature dealing with biochemical studies of experimental uranium poisoning, by E. Schwartz and E. J. Katz. Uranium distribution studies, by E. J. Katz and E. Schwartz. The effect of uranium exposure on urinary catalase excretion, by E. J. Katz and others. Studies of peroxide metabolism—The effect of uranyl on ceroperoxidase excretion, by E. Schwartz and E. M. Ziegler. Index.

Note. A volume made up chiefly of reports of original investigations on the toxicology of uranium made in the course of the work on the Manhattan Project during World War II. The findings are summarized in the papers in Part A. In Part B the reports themselves are assembled. Literature references are included with the papers.

TERRELL SAM FARLOW and ORVILLE A. BEATH

Selenium. Its geological occurrence and its biological effects in relation to botany chemistry agriculture, nutrition, and medicine. New York Published by the authors, 1949 292 p. illus. 24 cm. \$5.50 1026

Contents: History. Selenium bacterium plants. Distribution of selenium in rocks and soils. Accumulation of selenium by plants. Selenium poisoning in animals. Selenium in relation to public health. Prevention and control of selenium poisoning. Chemistry of selenium. Bibliography. Author Index. Subject Index.

Note. The poisoning of cattle as a result of eating vegetation grows on selenium-rich soils is a serious local problem in some parts of the United States. The poisoning of humans belongs in the same way has not been as clearly established, but some cases appear in clinical literature and there have been several new studies by public health authorities. This book is a summary of the current knowledge.

A considerable part of the space is devoted to background information such as data on plants that absorb selenium and the quacklike abortion. There is an extensive bibliography.

VOEGTLIN, CARL, and HAROLD C. HODGE, editors

Pharmacology and toxicology of uranium compounds with a section on the pharmacology and toxicology of fluorine and hydrogen fluoride. New York McGraw-Hill Book Company Inc. 1949 2 v illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division VI—Vol. 1) \$14.25 1027

Contents: Part I. The pharmacology and toxicology of uranium compounds. The chemistry of uranium compounds, by A. L. Dornes and J. F. Flegg. Analytical methods for determining uranium and fluorine, by J. F. Flegg. Statistical methods, by D. V. Thelander and others. Pathological anatomy following uranium poisoning, by T. R. Bennett and R. G. Metcalf. Characteristics of uranium poisoning, by I. E. Wills. Toxicity following percutaneous administration of soluble uranium salts, by F. Haven and H. C. Hodge. Routes of toxicity of various uranium compounds when fed to experimental animals, by E. A. Maynard and H. C. Hodge. The toxicology of compounds of uranium following application to the skin, by J. A. Goss. The toxicology of uranium compounds following application to the eye, by J. A. Goss. Toxicity following inhalation, by H. E. Stokinger and others. The distribution and excretion of uranium, by W. F. Korman. Tolerance to uranium compounds, by F. Haven. The action of uranium on enzymes and proteins, by A. L. Dornes and T. H. Lee. Catalase as a sensitive test for uranium poisoning, by A. L. Dornes and others. The mechanism of action of uranium compounds in the animal body, by A. L. Dornes. Studies on human exposure to uranium compounds, by J. W. Rowland. Part II. The pharmacology and toxicology of fluorine and hydrogen fluoride: Toxicity following inhalation of fluorine and hydrogen fluoride, by H. E. Stokinger. Appendix. Index.

Note: These volumes are based on the work of the Division of Pharmacology of the Manhattan District Project which, during World War II, was charged with the development of the atomic bomb. Much of the information contained in them was derived from original investigations; however, results reported in the literature have been included also.

VON OETTINGEN W F

Phenol and its derivatives the relation between their chemical constitution and their effect on the organism. From the Laboratory of Physical Biology Experimental Biology and Medicine Institute, The National Institutes of Health. Washington D C Government Printing Office 1949 408 p illus. 23 cm. (United States. Federal Security Agency Public Health Service National Institutes of Health bulletin no. 190) Paper \$0.80. 1028

Contents (abridged): Introduction. The monophenols: Relation between chemical constitution and physiological properties of monophenols. The diphenols: Relation between chemical, physical, and physiological properties of diphenols. The triphenols: Relation between the physicochemical properties of triphenols and their physiological effect. The halogenated phenols: Comparison of the anesthetic and toxic properties of mono-, di-, tri-, tetra-, and pentachlorophenols. Halogenated alkyl phenols: Relation between chemical constitution and anesthetic and toxic action of chlorinated phenols. The aminophenols. The ultraphenols: Comparison of the pharmacological and toxicological properties of mono-, di-, and triaminophenols. The phenolic aldehydes. The phenolic acids. The phenolic ethers. Comparison of the action of phenolic ethers with those of phenol. Comparison of the effects of blocking the phenolic group of various phenolic compounds and their physiological action. Bibliography. Index.

Note: Phenols and the compounds synthesized from them are described in the work from the standpoint of physiological and toxicological effects. The publications form the review of the literature of the subject and include bibliography of 55 pages. It is of interest to industrial chemists, pharmacologists, and other persons who are concerned professionally with industrial and public health.

VON OETTINGEN, W F

Poisoning: a guide to clinical diagnosis and treatment. New York Paul B Hoeber, Inc., 1952 524 p 24 cm. \$10.00. 1029

Contents: Part one, Introductory. Classification and diagnosis of poisoning. Medical-legal responsibility. Emergency measures and equipment. Part two, Diagnosis: Taking the patient's history. Structural and functional pathology. Biochemical changes. Laboratory tests. Part three, Management: The rationale of treatment. Removal of the toxic agent. Elimination of the toxic agent. Detoxification of the absorbed poison. Symptomatic treatment. General measures; treatment of after-effects. Part four, Symptoms and treatment of 441 types of poisoning. Index.

Note: An authoritative and detailed work which is organized as a reference guide for practical office use by physicians. Part two contains an extensive arrangement under physiological systems of signs and symptoms with lists of poisonous substances that may give rise to them. Part four runs to 370 pages and is a bibliographically-arranged collection of short essays on individual poisons or substances. In each essay specific compounds are described physiologically and chemically and physiological reactions to them are stated. Usual treatment is discussed briefly and one or two literature references are furnished. The author, a physician, is associated with the National Institutes of Health of the U S Public Health Service.

WAKSMAN, SELMAN ABRAHAM

The literature on streptomycin 1944-1952
New Brunswick New Jersey Rutgers University Press, 1952 553 p. 24 cm. \$5.00. 1030

Contents: Author index. Subject index.

Note: (1957) This second edition contains 3500 references to the literature of streptomycin as compared with 1171 in the 1944 edition. Use of the antibiotic either alone in the treatment of diseases are now indicated, such as in nasal therapy and in the prevention of cancer and strokes. A very detailed and colored index has also been provided. As in the previous edition, the arrangement is chronological.

WAKSMAN, SELMAN ABRAHAM, editor

Streptomycin nature and practical applications
Baltimore The Williams & Wilkins Co. 1949 618 p. illus. 24 cm. \$10.00 1031

Contents: Section I. Microbiological and chemical aspects: The period introduction, by S. Waksman. Streptomycin genes, action and structure, by S. A. Waksman. Strain variation and cross specificity of Streptomycin genes, by G. M. Savage. Production and isolation of streptomycin, by M. Tishler. The chemistry of streptomycin, by M. G. Brink and K. Fellner. Microbiological and chemical methods of assay for streptomycin, by H. Welch. Section II. Antibacterial and pharmacologic properties of streptomycin: Action of streptomycin on microorganisms in vitro, by G. P. Yoncoskie and M. W. Fisher. Antibacterial activity of streptomycin in vivo, by F. R. Hoffman and G. R. Rahn. Streptomycin in experimental infections, by W. H. Feldman and A. G. Karson. Development of streptomycin-resistant and streptomycin-dependent bacteria, by C. P. Miller and M. Reinhardt. Streptomycin resistance of tubercle bacilli, by W. Stansfield, J. C. W. Wright. The mode of action of streptomycin, by E. J. Henry and G. L. Bailey. Synergism between streptomycin and sulfonamides with special reference to streptomycin, by F. R. Thiescher. Absorption, distribution and excretion of streptomycin, by G. Rahn and R. Desverre. Pharmacology of streptomycin, by H. M. Bacter. Section III. Clinical uses of streptomycin: Clinical indications for streptomycin therapy, by C. S. Koser. Methods of administration and dosage, by W. R. Kozell. Streptomycin in the treatment of tuberculosis in man, by A. M. Walker and others. Streptomycin in the surgical treatment of pulmonary tuberculosis, by E. J. O'Brien and W. M. Tuttle. Clinical significance with aminoglycosides in the treatment of pulmonary tuberculosis, by M. D'Amico. Rectarthritis, by E. J. Fubini. Nephrotoxicity, by M. D'Amico. Rectarthritis, by E. J. Fubini. Toxicity, by L. P. Brouha, by W. W. Balak. Fever, by E. F. Meyer and S. F. Bruckner. Friedländer's infection (Shigella dysenteriae) infection—Quin. Friedländer's infection (Shigella dysenteriae) infection—their treatment with streptomycin, by H. M. Rappaport. Streptomycin in the treatment of streptococcal infections of the blood, by J. E. Kohn. Non-tuberculous infections of the blood, by J. E. Kohn. Lung abscesses and empyema, by E. J. Fubini. Urinary tract infections, by W. L. Everett. Intestinal infections, by H. A. Robinson. Cholelithiasis and pancreatitis, by E. L. Borella and H. A. Zlotoff. Prevention of wound infections, by E. J. Fubini. Clinical wound infections, by E. J. Fubini. Therapy of Brown. Clinical wound infections, by E. J. Fubini. Gonorrhea and chancroid, by E. R. Greenblatt. Gonorrhea and chancroid,

by L. E. Putnam. Ear infections, by R. H. Swartz. Ophthalmology by J. O. DeVries. Eye infections, by E. D. DeLamater. Toxicity of streptomycin in the human, by F. A. Dunn and R. E. Westlake. Allergies in the normal bacterial flora of man and animals and secondary infections occurring during streptomycin treatment, by L. Westlake. Section IV. Miscellaneous uses of streptomycin: Use of streptomycin and other antibacterial agents for recovery or isolation of viruses, by C. A. Brandy and M. S. Wislow. Streptomycin in small animal medicine, by W. G. Voss and C. R. Smith. Streptomycin in the treatment of certain infections of the human respiratory tract, by O. W. Schalm. Streptomycin and penicillin-streptomycin for the control of bacteria in human man, by J. O. Altmeyer. Use of streptomycin in agriculture, by F. A. Ark. Subject Index.

Note: A collection of original papers designed as a comprehensive presentation of the status of the antibiotic streptomycin as of approximately the close of the year 1944. Short lists of references accompany each paper but the scientists in search of comprehensive bibliography should consult *The literature on streptomycin, 1944-1945* described above.

YEAR BOOK OF DRUG THERAPY

The 1952 year book of drug therapy (August, 1951-August, 1952) Edited by Harry Beckman. Chicago The Year Book Publishers, 1952 606 p. illus. 20 cm. \$5.50 1032

Contents: Introduction. Allergy. Antibiotics and sulfonamides. Cardiovascular diseases. Dermatology. Endocrinology. Hematology. Internal medicine. Neurophysiology. Obstetrics and gynecology. Ophthalmology. Otolaryngology. Pediatrics. Surgery. Vascular surgery. Author Index. Subject Index.

Note: An expanded presentation of information which appeared in the periodical literature during the period noted in the book's title. The chapters consist of abstracts of periodical articles. The typical abstract is several hundred words in length and in many instances is supplemented by brief editorial comment which adds to the information given in the abstract or critically evaluates the author's methods or conclusions. The book can be read as a survey of developments without reference to the original articles or as a guide to the published literature. There are full author and subject indexes.

PHYSICAL THERAPY

BECKMAN WILLIAM AND SIDNEY LIGHT

Physical medicine in general practice. With twenty-two contributors. Third edition. New York Paul B Hoeber Inc. 1952 798 p. illus. \$12.50. 1033

Contents: Part I. Methods: Heat and cold, by C. S. Whit. Hydrotherapy by W. Bernstein. Chemo-therapy and gas therapy by W. R. McCulloch. Viable and natural collection, by W. D. Paul. Diathermy by F. R. Moor and W. Sherman. Surgical diathermy by W. Sherman. Galvanic and low frequency current, by W. Sherman and S. Licht. Ultrasound, radiation, by W. Sherman. Ultrasound, by F. Friedman. Massage, by W. Bernstein. Manipulation, by J. Boster. Functional muscle testing, by H. O. Kendall and F. F. Kendall. Exercise, by T. L. DeLamater. Occupational therapy by S. Licht. Medical rehabilitation, by S. Licht. Part II. Clinical applications: The conduct of treatment, by W. B. Snow. Diseases of the locomotor system, by W. Sherman. Arthritis and rheumatoid disease, by W. M. Solomon. The lower extremity amputee, by S. Bernstein. Neurologic diseases, by S. Mend. Anterior poliomyelitis, by M. E. Knapp. Neurovascular involvement for paralysis, by R. Kober. Cardiovascular diseases, by K. Rappaport. Diseases of the digestive system, by C. O. McIndoe. Otorhinolaryngeal diseases, by V. B. Dick. Gynecologic diseases, by W. Sherman. Eye, ear, nose, and throat diseases, by W. Sherman. Respiratory diseases, by W. Sherman. Dermatology diseases, by S. M. Fack and G. Klein. Index.

Note: (7172) A standard manual for general practitioners of medicine and laypersons in the field of physical therapy. In the first part methods which are currently considered to have therapeutic value are described explicitly. In the second part the uses of physical therapy in various types of diseases are discussed. Literature references are included in each chapter. The preceding edition was published in 1944 and was written by Dr. Sherman. In preparing this edition the contributors named in the contents above have revised or completely rewritten the chapters now signed with their names. With few exceptions the purpose and level of the book, such elements were retained and wide range of new material added.

BUCHWALD, EDITH AND OTHERS

Physical rehabilitation for daily living, by Edith Buchwald in collaboration with Howard A. Rusk, George G. Deaver and Donald A. Covalt. New York McGraw Hill Book Company Inc. 1952 183 p. illus. 29 cm. \$7.50 1034

Contents: Functional training. Bed and rest exercises. Wheelchair exercises. Self-care. Ambulation. Exercises and travel on crutches. Special problems: Wheel chairs. Rovers. A.D.L. training. Equipment and furniture for A.D.L. Index.

Note: Based upon the program developed at New York University-Bellevue Medical Center this manual is intended for physical therapists, physicians, and nurses who are concerned with teaching the skills necessary for physical independence to persons who have lost the proper use of their legs and must rely upon braces, crutches, wheel chairs. The volume outlines the step-by-step procedures for such activities of daily living ("A.D.L.") as toilet activities, dressing activities, eating activities, getting from place to place, walking, climbing stairs, and use of the wheel chair. Nearly half of the pages of the book contain photographs (illustrations showing the recommended steps and positions. While primarily intended for hospital programs of rehabilitation, the publication is written in non-technical language and should be valuable also to patients themselves and their families.

COZEN LEWIS

Office orthopedics. With 156 illustrations. Philadelphia Lea & Febiger 1950 232 p. illus. 24 cm. \$5.00 1035

Contents: Materials. Physical therapy. Local anesthesia. Fractures. Sprains. The foot. The ankle and the calf. The knee. The thigh and the hip. The back. Cervical spine. The neck. The elbow. The wrist. The hand. The shoulder. The hip. The knee. The ankle. The foot. The toe. Child. Child with scoliosis. Blisters and knock knees. Concussion of the head in child. Wry neck. Painful arm or leg in child. Abnormal leg or arm in child. Habitual fall of child to get up. Painful arm or leg in an adult. Deformity of arm or leg in an adult. Weakness of arm or leg in an adult. Coldness and pain in an extremity. Complication of postural leg myositis. Fractures. Recent progress in office orthopedics. How to examine orthopedic cases for the low cost. Index.

Note: Orthopedics as practiced in offices of general practitioners and in clinics is the subject here. Surgical treatments and hospital procedures are not included. Instead, detailed information on simple therapeutic methods needed by the general practitioner are presented and illustrated. Tests, treatments, and useful devices are considered with detailed instructions as to time and place of use. A general bibliography precedes the text while more specific references are listed at the end of each chapter. The author is a member of the faculty of the College of Medical Evangelists, Los Angeles.

DUNTON WILLIAM RUSH JR. AND SIDNEY LIGHT editors

Occupational therapy principles and practice. Springfield, Ill. Charles C Thomas, 1950 321 p. illus. 24 cm. \$8.00 1036

Contents: History of occupational therapy by W. R. Dunton, Jr. The principles of occupational therapy by S. Licht. The prescription, by W. R. Dunton, Jr. Occupational therapy for psychiatric disorders, by W. E. Barton. Kinesthetic occupational therapy by S. Licht. Occupational therapy for amputees, by F. Lyttelton. Occupational capacity and therapy in heart disease, by F. D. White. Occupational therapy in tuberculosis, by A. E. Smith. Occupational therapy in the treatment of cerebral palsy, by R. W. Brownie and W. M. Phelps. Education for hospitalized patients, by S. Licht. Radiotherapy in neuropsychiatry by J. M. Schmidt. Radiotherapy in therapy by J. E. Davis. Disease therapy by A. P. Solomon. Index.

Note: The purpose of this book is to provide medical practitioners rather than physical therapists with information about the scope and methods of occupational therapy. The several chapters are by prominent physicians and other persons with professional associations in the field, and they were written especially for this book. References to related literature are included.

GOLDTHWAIT JOEL ERNEST AND OTHERS

Essentials of body mechanics in health and disease. By Joel E. Goldthwait, Lloyd T

KRUSEN FRANK HAMMOND, editor

Physical medicine and rehabilitation for the clinician. Philadelphia W B Saunders Company, 1951 371 p. illus. 25 cm. \$6.50

1043

Contents: The scope of physical medicine and rehabilitation, by F. H. Krusen. 2. Therapeutic applications of physical agents and procedures: Prescription writing in physical medicine, by G. M. Martin. Therapeutic uses of heat, by G. M. Martin. Therapeutic uses of massage, by D. J. Erickson. Basic principles used in therapeutic exercises, by E. C. Ellis. Factors involved in posture, by E. C. Ellis. Treating the patient in rest and pain, by F. M. Krusen. Unimpaired motion in medicine, by G. M. Martin. Experimental studies in muscular atrophy, by J. F. Harrell. Ultrasound and medicine, by J. F. Harrell. Occupational therapy for the medical patient, by G. Patton. Occupational therapy for rheumatic disease, by G. Patton. 11. Diagnostic applications of physical agents and procedures: Electrodiagnostic methods—evaluation and interpretation, by D. L. Ross. Simple muscle testing procedures in the clinical evaluation of pain, by D. L. Ross. Skin resistance testing in neurologic diagnosis, by J. R. Gay. Studies of the correlation as evidenced by measurements of the temperatures of the skin in health and disease, by G. M. Roth and C. Stuart. 12. Critical aspects of physical medicine and rehabilitation: Physical medicine and rehabilitation in general hospitals, by H. A. Rusk. The function of the medical social worker in rehabilitation planning, by L. Schenckman. Physical medicine in neurology, by A. L. Welfels. The clinician approaches the problem of backache, by H. F. Polley. Rheumatoid myositis—clinical features and methods of treatment, by H. F. Polley. Physical treatment of arthritis, by H. F. Polley. Psychosomatic problems with neuromuscular and joint involvement, by E. P. Reese. The stiff and painful shoulder, by R. E. Gurneary. Breathing exercises for asthmatics, by D. J. Erickson. Physical treatment of the hemiplegic patient in general practice, by E. Dickson. Pulses—evaluation and management of pulseless vessels, by F. J. Kotke. The treatment of polycysticosis, by M. E. Sapp. Physical medicine in treatment and rehabilitation of patients having tuberculosis and other pulmonary lesions of the chest, by H. Dickson. Management of the therapy of the patient having cerebral palsy, by G. R. Logan. Evaluation and management of the patient having cerebral palsy, by G. M. Martin. Physical rehabilitation of the paraplegic, by E. C. Ellis. Experimental studies on function and function, by R. E. Doss and F. H. Krusen. 14. Fundamentals of sensory therapeutic concepts and physiology as related to physical medicine and rehabilitation: Functional anatomy of the upper limb, by W. H. Hildebrand. Functional anatomy of the lower limb, by W. H. Hildebrand. Functional anatomy of the back, by W. H. Hildebrand. The clinical significance of health and disease, by R. G. Walker. Fundamentals of therapeutic exercise, by F. H. Krusen. The physiological effects of heat and immobilization, by H. L. Taylor. Index.

Note: The editor of this work is head of the section on Physical Medicine and Rehabilitation of the Mayo Clinic, and most of the contributors are members of the Mayo Clinic staff. A typical chapter is about 20 pages in length and is accompanied by a list of references. The book is addressed to medical men who are not specialists in physical medicine.

NATIONAL SOCIETY FOR CRIPPLED CHILDREN AND ADULTS INC

A manual of cerebral palsy equipment. Chicago The National Society for Crippled Children and Adults, Inc. 1950 illus. 30 cm. Looseleaf flexible binder \$5.00 1044

Note: In this work wide variety of literature and other equipment useful in the care and treatment of persons affected with cerebral palsy is described. Each piece of equipment is described separately, usually in a single sheet. The descriptions usually include an illustration and specific data on dimensions and materials. Both standard equipment and equipment that must be custom-made are included. Besides the descriptions of equipment, the book includes list of commercial firms manufacturing such equipment in the United States of America and bibliography.

POHL JOHN FLORIAN

Cerebral palsy Saint Paul, Minnesota
Bruce Publishing Company 1950 224 p. illus. 21 cm. \$5.00 1045

Contents: The medical problem. Plan of treatment—general principles. Rehabilitation. Introduction to neuromuscular training. Neuro-

muscular training: anterior neck and trunk. Neuromuscular training: posterior neck and trunk. Neuromuscular training: upper extremity. Neuromuscular training: lower extremity. Developmental patterns. Walking. Occupational therapy. Speech. Index.

Note: Essentially this book is a manual of the therapy and training of children affected with cerebral palsy. It is addressed both to medical practitioners and to nonmedical therapists who are concerned with the treatment of such children. There are 130 illustrations but no literature references. The author is Orthopaedic Surgeon for the Michael Dearing School for Crippled Children in Minneapolis.

SHRINER, MILORND

Foundations for walking a practical guide for therapists, teachers and parents of cerebral palsied children. Chicago Illinois The National Society for Crippled Children and Adults, Inc., 1951 93 p. illus. 23 cm. Paper \$1.00. 1046

Contents: Locomotion goals. The child needs the proper chair for sitting. The child needs other equipment to aid sitting habits. The child sits and gets around on wheels. The child is lifted and carried. The child stands. The child walks. The author. Bibliography.

Note: An authoritative booklet of practical up-to-date techniques in the teaching of walking to children affected with cerebral palsy. Most of the illustrations show special apparatus such as chairs, slats, shoes, canes, specially adapted tricycles, puffed tires, and pressure slats. There is a bibliography of 28 references.

WEPMAN JOSEPH M

Recovery from aphasia. With a foreword by Wendell Johnson. New York The Ronald Press Company 1951. 276 p. illus. 24 cm. \$5.50. 1047

Contents (abridged): Part I. Nature of aphasia: Introduction to aphasia therapy. Etiology of aphasia. Neuropsychological characteristics of aphasia. Classification and nomenclature of aphasia syndromes. Part II. Research findings during World War II. Part III. Aphasia therapy and therapists. Theory and working principles. The professional aphasia therapist. Assembled therapists and therapists. Direct therapy in receptive aphasia. Direct therapy in expressive aphasia. Bibliography. Index of names. Index of subjects.

Note: Originally in the United States of America the aphasia therapist may be person who has background in teaching, speech pathology, psychology or some other field. Medical practitioners and persons who play a part in the treatment of aphasia. This book is survey of the field for persons who are engaged in aphasia therapy or are interested in entering the profession. The author has reviewed some experiments with the fundamentals of education and psychology but not necessarily any previous acquaintance with aphasia. The aspects of the subject which are of interest to practical therapists are discussed fully and in their context as they are. There is also emphasis on the accuracy of viewing the aphasia as a person with identity and other social relationships, both or important factors in his recovery. The author is a member of the faculty of the Medical School of the University of Chicago.

YEAR BOOK OF PHYSICAL MEDICINE AND REHABILITATION

The 1951 year book of physical medicine and rehabilitation (December 1950-January 1952) Edited by Frank H. Krusen. Associate editors: Earl C. Elkins and George G. Deaver. Chicago The Year Book Publishers, Inc. 1952 382 p. illus. 20 cm. \$5.50 1048

Contents: Introduction, Spinal fluids, by G. G. Deaver and others. General aspects. Physiology and medicine considerations. Diagnostic applications. Electromyography. Devices and mechanical procedures. Exercise. Artificial respiration. Heat and cold therapy. Hydrotherapy. Medical electricity. Heart, lung and circulatory. Pathology. Orthopaedics in medicine. Polysphyria. Cervical palsy. American Orthopaedic conditions. General medical conditions. Neurology and psychiatric conditions. Obstetrics. Urology. Ophthalmology conditions. Teaching. Index. Index to authors.

Note: (1951) An annual publication published on the plan of the other books in this series. In its selections from the world's medical literature are summarized and classified. Each chapter is

made up of a number of abstracts of substantial length. Frequently the abstract is accompanied by short supplementary notes written by the author. A reference to the original article is given in all cases. In the lower left hand there are 160 figures. Also in this lower left special article on *zinc intake* as indicated in the table of contents. This article is not an abstract but is a full-length discussion of treatment and rehabilitation of children affected with this condition.

NUTRITIONAL THERAPY

GOODHART, ROBERT S. editor

Nutrition in the practice of medicine with comments on nutrition, disease and geography. Proceedings of the Nutrition Symposium held at the University of California, School of Medicine, San Francisco October 30 1951. Edited by Robert S. Goodhart. New York: The National Vitamin Foundation, Incorporated, 1952. 163 p. illus. 23 cm. (Nutrition symposium series. No. 4) \$1.50 1049

Contents: Some factors related to intestinal absorption, by P. J. Coffer. Nutritional aspects of liver disease in man, by R. M. Kirk. Influence of pancreatic insufficiency on nutrition, by H. Nielsen. Nutritional and metabolic disturbances in alimentary catarrh, by J. A. Ziegen. Some aspects of nutrition in relation to those disturbances and malabsorption, by P. J. Sizs. Some features of these changes induced by nutritional deficiencies, by P. R. Cannon. Some (laboratory) economic aspects of nutrition, by J. B. Casella.

Note: Each of the papers in this book is original and is written at the research level. In most instances the results of recent investigations and observations are described, and in some of the papers particular stress is laid on problems still waiting solution. A transcript of the discussion which followed the presentation of each paper is included and therefore references are supplied.

JOLLIFFE, NORMAN AND OTHERS, editors

Clinical nutrition. Edited by Norman Joliffe, F. F. Tisdall and Paul R. Cannon for the Food and Nutrition Board of the National Research Council. With 78 tables and 127 illustrations, 61 in full color. New York: Paul B. Hoeber Inc. 1950. 925 p. illus. (part col.) 24 cm. \$12.00 1050

Contents: Part I, Diagnosis of nutritional deficiency. The pathogenesis of deficiency disease, by M. Joliffe. The dietary and medical history, by M. Joliffe. The clinical signs, by M. Joliffe and others. Biochemical methods, by G. A. Goldsmith. Radiologic examination of the digestive tract, by R. Golden. Critique of laboratory aids in the diagnosis of malnutrition, by H. Peck. Part II, The nutrient elements. Protein malnutrition, by R. Kohn and P. R. Cannon. Carbohydrate malnutrition, by S. Sothel and R. Levin. Calcium deficiency and starvation, by A. Key. Calcium and phosphorus malnutrition, by I. Sponner. Iron malnutrition, by R. F. Farquharson. Sodium, potassium, and chloride malnutrition, including water balance and shock, by J. A. Desphages. Iodine malnutrition, by G. M. Curtis and M. R. Farman. The essential trace elements, by C. V. Moore and others. Vitamin A malnutrition, by J. W. Clemen. Vitamin D malnutrition and rickets, by E. A. Park. Vitamin E malnutrition, by R. D. Weaver. Thiamine malnutrition, by R. D. Williams and R. M. Wilder. Riboflavin malnutrition, by G. A. Goldsmith. Nicotinic acid malnutrition and pellagra, by J. D. Spies. The purinogenic malnutrition, by W. J. Darby and E. Jones. Choline malnutrition, by C. H. Best and C. C. Lucas. Vitamin C malnutrition and scurvy, by F. F. Tisdall and N. Joliffe. Pyridoxine, pantoic acid, biotin, niacin, and vitamin K, by R. S. Gordon. Part III, Therapy and prevention. Principles of nutritional therapy, by M. Joliffe. Dietotherapy, by M. G. Wahl. Dietotherapy, by M. G. Wahl and M. O. Schaefer. Obesity, by L. H. Newburgh. The relation of stress to health, by F. F. Tisdall. Nutrition in public health practice, by W. H. Sebrell, Jr. and H. R. Sandstead. Food and nutrition problems connected with industrial work, by R. S. Goodhart and M. E. Ellis. Appendix. Index.

Note: An important work planned and written on the basis of the knowledge of scientists physicians the current scientific information on human nutritional requirements, the clinical signs of deficiencies, the diagnosis and differential diagnosis of deficiencies, and methods of treatment. Extensive bibliography is included.

McLESTER, JAMES SOMERVILLE, AND WILLIAM J. DARBY

Nutrition and diet in health and disease. Sixth edition. Philadelphia: W. B. Saunders Company. 1952. 710 p. 24 cm. \$10.00. 1051

Contents (abridged): Part I, Nutrition in health: Definition of food. The vitamins. Inorganic nutrients. Milk and milk products. Meat, fish and eggs. Other foods. Feeding of infants. Nutrition in pregnancy and lactation. Part II, Nutrition in disease: Deficiency diseases. Diabetes mellitus. Goiter. Obesity and leanness. Diseases of the kidney and urinary tract. Diseases of the digestive system. Female diseases. Diseases of the heart and arteries. Diseases of the joints. Diseases of the nervous system. Endocrine diseases. Diseases of the skin. Nutrition in surgery. Special methods of feeding. Laboratory. Supplementary tables. Composition of foods. Index.

Note: (1208) A technical survey of the available information on nutrition both in health and in disease. Although it contains much information which is valuable to physicians, nurses, and public health workers it is addressed not only to such readers but is intended also for nutritionists, teachers of home economics, etc. It is based on the literature and both the text and the tables are referenced to the bibliography. The first edition was published in 1927 and the fifth edition in 1948. The sixth edition is the first one to bear the name of collaborator on the title page. In comparison with the preceding edition it is very strongly revised with newly added information in practically every chapter. There are now 143 tables, some of which are statements of recommended means for the diagnosis for use in the treatment of specific diseases. The bibliography is not comprehensive but includes the classical references and the more recent modern studies.

MAYO CLINIC COMMITTEE ON DIETETICS

Mayo Clinic diet manual. Philadelphia: W. B. Saunders Company. 1949. 334 p. illus. 24 cm. \$4.50. 1052

Contents (abridged): Standard hospital diets. Standard tube feedings. Dietary prescriptions; following specifications is general. For gastric and duodenal ulcers. For obstructive gastric and duodenal ulcers. For non-ulcerative gastric surgery. For diseases of the gallbladder. For diseases of the liver. For use before and after operations on the lower part of the intestinal tract. For use after operations on the colon or vaginal hysterectomy. For irritable bowel with constipation. For chronic obstructive colitis. For sprue. For obesity. For urinary calculi. For cerebral vascular disease. For diabetes. For gout. For hypercholesterolemia. For hypochlosterolemia. For iron deficiency anemia. For obesity. For pregnancy. For simple overweight. For underweight due to exertion. For infants. For children. For children who have chronic disease. For children who have epilepsy. For children who have chronic renal disease. For children who have diabetes (metabolic). High protein, low sodium. High protein, low fat. High protein, low fat. Test diet for starvation and for nitrogen retention. For powder. Recommended dietary allowances, revised 1943 (amounts per day). Vitamin supplements. Excess of sodium or potassium in foods. Foods high in calcium. Foods high in cholesterol. Foods high in iron. Foods high in organic acid. Foods high in sodium. Classification of foods according to carbohydrate content. Average composition of 100 g. of various foods. Recipes for certain foods in physiological but of approximate composition of food. Standard diet for children. Standard diet for adults. Food management. Index.

Note: A reference manual of specific information and detailed descriptions of specified diets developed and used at the Mayo Clinic and associated institutions. It is designed for persons with training in medicine or dietetics rather than for patients and the general public.

POLLACK, HERBERT AND SEYMOUR LIONEL HALPERN

Therapeutic nutrition. Prepared with collaboration of the Committee on Therapeutic Nutrition, Food and Nutrition Board. Committee on Therapeutic Nutrition, Russell M. Wilder chairman. Washington: D. C. National Academy of Sciences—National Research Council, 1952. 94 p. 25 cm. (National Academy of Sciences—National Research Council. Publication 254) 1053

Contents (abridged) Functions of components of the diet in metabolism. Non-dietary factors affecting metabolism. The endocrine glands and metabolism. Evaluation of nutritional status. Consequences of nutritional deficiency. The relation of protein deficiency to disease. Metabolic requirements of the sick, injured, and convalescent. Therapeutic restriction for special conditions. The treatment of starvation and severe undernutrition. Problems of nutrition under emergency disaster situations. References.

Note: A summation of what is currently known about the part played by proper nutrition in hastening the recovery of sick, wounded, and convalescent patients. The material is based on survey of the literature of the subject. The discussion of the relationship of nutrition and disease and the outlined therapeutic measures designed to meet specific needs represent the consensus of opinion of experts in the field. Emphasis is placed primarily on recovery from acute catabolic episodes that produce drastic metabolic derangement of normal physiological processes. Prolonged partial or chronic malnutrition of population groups is not primary consideration in this report. The subjects of interest are generally in the clear of hospitalized patients. The bibliography of 785 references is keyed to the textual material.

RICE, THURMAN BROOKS

Low-sodium diet a manual for the patient. Philadelphia: Lea & Febiger 1951. 103 p. 24 cm. \$2.75 1054

Contents: The focus of sodium found in food. Why sodium may be injurious. Where and how does one get low-sodium food? What he eat. Occasional and temporary in the low-sodium diet. The psychology of dieting. Excess and prevention. Body weight in relation to the low-sodium diet. The use of sodium compounds in the processing of foods. Remedies for the prevention of low-sodium wastes. Food data noted by content of sodium content. Typical food charts for study and consideration. Water supplies in relation to sodium content. Appendix. Index.

Note: A graduate physician who is on a low-sodium diet himself wrote this practical guide for those who want also follow such diet and for those who prepare meals for them.

RADIOLOGY

BEARD, DONALD E., AND OTHERS

Radiologic diagnosis of the lower urinary tract. By Donald E. Beard, William R. Good-year and H. Stephen Weens. Springfield, Ill: Charles C. Thomas, 1952. 143 p. Illus. 24 cm. \$6.50 1055

Contents: Introduction. The normal cystogram. Diseases of the anterior urethra. The meatus-urethra. The posterior urethra. The bladder. Cystography and cystoscopy in children. References. Index.

Note: A practical introduction to urology and cystography at the present time is a study of the lower urinary tract. The authors present simplified techniques for urography based on the use of contrast medium consisting of 37 per cent sodium iodide in percent oil. Especially the book is an atlas of approximately 300 pictures, most of which are reproductions of roentgenograms. The pictures are accompanied by descriptive captions and brief, clearly written text.

BUSCHKE, FRANZ AND OTHERS

Supervoltage roentgenotherapy. By Franz Buschke, Simeon T. Cantrell, and Herbert M. Parker. Springfield Illinois: Charles C. Thomas, 1950. 297 p. Illus. 24 cm. \$10.50 1056

Contents: Physical considerations of supervoltage roentgenotherapy at the Tumor Institute. Carcinoma of the oral cavity. Malignant tumors of the pharynx. Carcinoma of the esophagus. Carcinoma of the mediastinum. Carcinoma of the larynx. Carcinoma of the bladder. Carcinoma of the breast. Carcinoma of the cervix uteri. Primary sarcoma. Carcinoma, Index.

Note: In the book three members of the Tumor Institute of the Swedish Hospital in Seattle, Washington summarize the experience with this hospital's high voltage X-ray apparatus, which was installed in 1913 and has been in use since that year. The installation which operates at about 800 K. V. is described in the first chapter

The remainder of the book is made up chiefly of detailed discussion of case histories. Although the authors avoid "hard and fast" conclusions they have found some advantages in the use of X-ray energies above 300 K. V. The book contains 180 illustrations, some of which are colored. Bibliographies are included with the chapters.

CAFFEY, JOHN

Pediatric X-ray diagnosis a textbook for students and practitioners of pediatrics, surgery & radiology. Second edition. Chicago: The Year Book Publishers, Inc. 1952. 862 p. Illus. 27 cm. \$22.50. 1057

Contents (abridged) Section I. The head and neck: The skull. Infratentorial structures. Extracranial structures. Intracranial pneumography. The neck. Section II. The thorax: The thoracic wall. The respiratory tract. Pathologic intrathoracic changes. Primary pulmonary tuberculosis. The mediastinum. The heart. Section III. The abdomen & gastro-intestinal tract: Diseases of the abdominal wall. The liver. The biliary tract. The spleen. The pancreas. Mesentery and omentum. The digestive tract. Section IV. The pelvis and genito-urinary tract: The pelvis. The urinary tract. The adrenal glands. The reproductive system. Section V. Miscellaneous: The soft tissues. The bones. The joints. Section VI. The vertebral column: Congenital disturbances. Traumatic lesions. Diseases involving vertebral column. Index.

Note: (191P) A comprehensive treatment based on many years of collective experience at the Baby's Hospital, New York. Illustrations and illustrations from the periodical literature have been incorporated also. Under each of the anatomical regions named in the chapter titles, conditions which are of interest in radiology are discussed. Concisely speaking, there is brief description of the specific disease or abnormality and this is followed by a longer discussion of the anatomy and pathology in relation to roentgen diagnosis. Normal roentgen appearances are described and illustrated for purposes of comparison. The first edition was published in 1943. In spite of the short interval between the two editions, the second edition contains fair amount of new text and 724 new illustrations. A selection of recent literature has been added to the references lists printed in various places throughout the book.

DE LORMIER, ALFRED ALEXANDRE

The arthropathies, a handbook of roentgen diagnosis. Second edition. Chicago: The Year Book Publishers, Inc. 1949. 335 p. Illus. 21 cm. \$7.00. 1058

Contents: Part I. The peripheral joints: Developmental arthropathies. Osteoarthritis. Group in which changes are essentially concerned with postural reactions, lesions or actual localized lesions of the joints—the true arthropathies. Part II. The joints of the spine. Developmental arthropathies. Spondylitis. Osteoarthritis. Group in which changes are essentially concerned with mechanical stresses. Group essentially concerned with postural reactions, lesions or actual localized lesions of the joints. Osteoarthritis. Myeloma. Spinal arthropathies—osteoporosis. Group. Part III. The temporomandibular joints. Arthropathies. Selected references. Index.

Note: A thorough work on the use of X-ray in diagnosis of diseases of the joints. In the edition there are 37 plates and the majority of these contain reproductions of two or more roentgenograms. The plates are accompanied by descriptions of the abnormalities and clinical manifestations which can be seen in them. The chapters on diseases are preceded by an introduction in which the techniques of producing high quality roentgenograms of the joints and surrounding tissues are described. The first edition was published in 1943. Both the text and the illustrations have been extensively revised and augmented.

ECKER, ARTHUR

The normal cerebral angiogram. Springfield, Ill. Charles C. Thomas, 1951. 190 p. Illus. 24 cm. \$7.25 1059

Contents: Part I. Technical. General technical considerations. Specific technical considerations. Part II. Angiographic anatomy. Radiographic anatomy. Vascular anatomy. Arteries. Veins. References to the literature and foreign literature. References. Index.

Note: A short but valuable monograph on the radiology of the blood vessels of the brain. In the first part specific and detailed descriptions of techniques are supplied. The second part is built around series of remarkable X-ray photographs of blood vessels in

the brain. The purpose of the work is to describe the normal (and "normal variations") anatomy of the major blood vessels of the brain as there are seen in angiograms and to describe the techniques of angiography for the guidance of neurologists and neurosurgeons.

FERGUSON, ALBERT BARNETT

Röntgen diagnosis of the extremities and spine. Second edition, revised and enlarged. With six hundred and twenty-five roentgen ray studies and eight line cuts. New York Paul H Hoeber Inc. Medical Book Department of Harper & Brothers 1949 519 p. illus. 27 cm. (Annals of roentgenology, a series of monographic atlases. Vol. seventeen) \$16.00

1060

Contents: Introduction. Osseous matter. Metastatic bone. Disphyseal fractures and infections. Epiphyseal malunion. Metaphyseal bone. Tubercle. Disturbances of bone formation. Carpal bone. Infection and aneurysm. Fracture. Healing of fracture. Epiphyseal and small bone lesions. Non-union lesions. Arthritis. Tuberculous arthritis. Non-tuberculous infectious arthritis. Specific lesions. Primary bone malignancy. The spine. Index of case histories. General index.

Note. (2191) A standard work in which the author correlates roentgenographic and clinical findings and discusses particular roentgen pictures from the viewpoint of the evidence of pathologic changes. The discussions are clinical and diagnostic rather than systematic. The book is intended as a practical guide to the use of X-ray in diagnosing bone disease and is of interest not only to roentgenologists but also to orthopedic and general surgeons. This edition contains the text and illustrations of the original edition plus two added chapters and 71 new illustrations. The new chapters are those entitled "Spindle tumors" and "Primary bone malignancy."

GLASSER, OTTO, AND OTHERS

Physical foundations of radiology. By Otto Glaser Edith H. Quimby Lauriston S Taylor and J. L. Weatherwax. Second edition, revised and enlarged. New York Paul H Hoeber Inc. 1952 581 p. illus. 20 cm. \$6.50

1061

Contents: Preface to second edition. Preface to first edition. Introduction to radiology. Fundamental concepts of matter. Fundamental concepts of radiation. Interaction of radiation and matter. Fundamental concepts of electricity and magnetism. Basic electric instruments. Production and nature of Roentgen rays. Roentgen-ray tubes. Roentgen-ray circuits. Super-voltage generators. High energy accelerators; nuclear reactions. Physical principles of Roentgen-ray diagnostic procedures. Measurement of Roentgen-ray quantity. Measurement of Roentgen-ray quality. Time dosage in Roentgen-ray therapy. Radioactivity. Measurement of gamma-ray quantity. Dosage calculations in radium therapy. Measurement of radiances from radioactive isotopes. Dosage considerations as the use of radioactive isotopes administered internally. Dependence of the biologic reaction on quality and time factors. Production in radiology. Appendix. Roentgen ray depth dose tables. Index of names. Index of subjects.

Note. (2192) A concise and practical discussion of the physical principles underlying the production, properties, and utilization of X-rays. The treatment is elementary and non-mathematical, and the book is intended to serve as a text for medical students and guide for practicing physicians. The first edition appeared in 1944 and has been widely used. It was extensively revised for this edition. New developments relating to X-ray quantity and quality and diagnostic procedures were incorporated and two chapters on radioactive isotopes and high energy accelerators were added.

GRUBBÉ EILIL HERMAN

X ray treatment its origin birth and early history. Saint Paul The Bruce Publishing Company 1949 153 p. illus. 24 cm. \$3.00.

1062

Contents: (abridged) Vacuum tube research preceding Roentgen's work. The actual discovery of X-rays by Roentgen. The author's work before Roentgen's discovery. The author's work following Roentgen's discovery. The first X-ray burn. The origin of X-ray therapy. The effects of X-rays on the author's body. The early

history of X-ray therapy. Number of diseases amenable to X-ray treatment. X-ray apparatus and devices designed by the author. The early pioneers of the X-ray X-ray therapy treatment. The author's bibliography. The author's biography.

Note: This book is a short personal account of the author's pioneer work in the use of X-rays as a therapeutic agent. He was the first to test the use of X-rays in the treatment of disease and was also the first professor of roentgenology in any medical college. The book is not systematic history but is an autobiographical document of interest to students of this phase of the history of medicine.

HAHN, PAUL F., editor

A manual of artificial radioisotope therapy. New York Academic Press, Inc. 1951 310 p. illus. 23 cm. \$6.80

1063

Contents: Introduction to radiation therapeutic problems, by H. H. Dewey. Terminology and standards, by R. D. Evans. Criteria for the use of therapeutic isotopes, by P. F. Hahn. Dosimetry of internally administered radioactive isotopes, by K. H. Quimby. Radio-phosphorus in the treatment of polycythemia vera and the leukemia, by C. F. Strubell and B. K. Hall. Radioactive iodine in the treatment and treatment of hyperthyroidism, by J. B. Hirsch and J. W. Dunn. Radioactive tellurium in the study and treatment of carcinoma of the thyroid, by R. W. Rutenfranz and J. B. Hirsch. Radioactive cobalt in the treatment of lymphoid-mesenchymal diseases, by P. F. Hahn. Tumor therapy by direct infiltration of radioactive colloidal materials, by P. F. Hahn. Radiobiological instrumentation in therapeutic programs employing artificial radioactive isotopes, by R. L. Walsell. Health physics, by K. L. Morgan. Autoneurography as a tool in medical research, by C. P. Leblond and J. Oudet. Availability of isotopes and means of procurement, by F. C. Ashmole. Planning the radioisotope program in the hospital, by E. H. Quimby and C. B. Rutenfranz. Author index. Subject index.

Note: A book made up of short monographic chapters written by eminent American scientists and physicians who are active in the production of radioactive isotopes or in their therapeutic applications. As the chapters deal with therapeutic rather than physical aspects are emphasized. The book is designed for biologists, radiologists, and physicians and is written both as a manual of actual therapeutic techniques and a guide to the pertinent literature. The editor is associated with the Cancer Research Laboratories of Maimonides Medical College, and the contributors are mostly members of the faculties of outstanding medical schools.

KAPLAN IRA I.

Clinical radiation therapy. With 614 illustrations. Second edition. New York Paul H Hoeber Inc. 1949 844 p. illus. 24 cm. \$15.00

1064

Contents: Historical development of radiation therapy. Radiation physics. Principles of radiation therapy. General considerations in the use of radiation therapy. Radiation in skin conditions. Radiation in eye, nose, and throat conditions. Radiation in eye conditions. Radiation in breast conditions. Radiation in gynecological conditions. Radiation in breast conditions. Radiation in gynecological conditions. Radiation in bone conditions. Radiation in neurologic conditions. Radiation in blood conditions. Radiation in soft tissue neoplasms. Radiation in lymph nodes. Radiation of specific diseases of the lymphatic system. Radiation in radiotherapy. Complications and injuries associated with X-ray and radium therapy. Tumors and cancer. The legal aspects of radiation therapy. Index.

Note. The author of this work is Clinical Professor of Radiology in New York University Medical College and Director of the Radiation Department of Bellevue Hospital in New York City. The book is based on an extensive experience and a large file of case histories. A wide range of diagnostic and therapeutic techniques is included and each is minutely described. The illustrations include reproductions of numerous roentgenograms as well as photographs. The first edition was published in 1937. Numerous changes in various parts of the book were made in preparing the present edition, and the chapter on the legal aspects of radiation therapy was added.

MARKOVITS EMEKIK

Bone and joint radiology. New York The Macmillan Company 1949 446 p. illus. 26 cm. \$20.00.

1065

Contents: (abridged) Part one. General part. Section A—Anatomy, physiology and radiologic anatomy of bones and joints.

Section B—Diagnosis of the bones. Section C—Diagnosis of the joints. Section D—Diagnosis of the muscles and of the soft tissues. Part two, Radiological part. The skull. The spine. The pelvis and the hip joint. The femur. The knee joint. The hand and foot. The middle finger. Tarsal and metatarsal bones and phalanges of the foot. The elbow, wrist, carpal, scapula, and clavicle. The shoulder joint. The forearm, radius, ulna, and carpal. The hand. The wrist joint. The thumb joint. The phalanges of the hand. Radiography Index.

MARKOVITS, EMERIK

Visceral radiology New York The Macmillan Company 1951 612 p. illus. 26 cm. \$24.00 1066

Contents (abridged) Part one, The chest and the respiratory system. Part two, The circulatory system. Part three, The digestive system. Part four, The abdominal and abdominal organs. Part five, The genitourinary system. Part six, The central nervous system. Bibliography Index.

Note: This and the preceding title are similar in organization and have viewpoint. However, they may be used independently in each the best plan of organization is by system. Under each system there is, first, concise discussion of the anatomy and physiology then follow (after discussion of anatomy and, finally there is some information on radiographic technique and specific information on the interpretation of radiographs. Each title is fully illustrated. They are based on long experience in radiology work of it in Vienna and Budapest, but part of it is in the United States.

MESCHAN ISADORE

An atlas of normal radiographic anatomy With the assistance of R. M. F. Farrer Meschan. 1044 Illustrations on 362 figures. Philadelphia W B Saunders Company 1951 593 p. illus. 26 cm. \$15.00. 1067

Contents: Fundamental background for radiographic anatomy. Introduction to the radiographic anatomy of the skeletal system. Radiographic anatomy of the upper extremity. The radiographic anatomy of the pelvis and lower extremity. Radiographic anatomy of the skull. Detailed consideration of certain areas of the skull. The radiographic study of the brain. The radiographic anatomy of the vertebral column and subarachnoid space. Radiographic anatomy of the respiratory system. The radiographic anatomy of the mediastinum. Special studies of the heart and major blood vessels. The radiographic anatomy of the upper gastrointestinal tract. Radiographic anatomy of the intestine beyond the duodenum. Radiographic anatomy of the abdomen and retroperitoneal space. The urinary tract. The genital system. Index.

Note: As indicated in the title, the text is concerned with normal anatomy as it appears in radiographs. In their discussion of the various regions and systems the authors combine verbal descriptions with drawings and radiographs. Many of the drawings are assembled in two columns of (1) diagrams of the pathophysiology of the subject, (2) reproductions of radiographs made in this laboratory and (3) line drawings in which the various parts visible in the radiograph are identified. The author is Head of the Department of Radiology in the School of Medicine at the University of Arkansas.

POHLE, ERNST ALBERT, editor

Clinical radiation therapy Second edition, enlarged and thoroughly revised, with 201 illustrations and a colored plate. Philadelphia Lea & Febiger 1950 902 p. illus. (part col d) 24 cm. \$15.00. 1068

Contents: Radiation therapy in diseases of the blood and blood-forming organs, by G. G. Meyer. Radiation therapy in diseases of the circulatory system, by R. Goshen and H. W. Jaffe. Radiation therapy in diseases of the respiratory system and of the breast, by G. E. Richards. Radiation therapy in diseases of the gastro-intestinal tract, by G. T. Pack and G. McKee. Radiation therapy in diseases of the female genital system, by C. L. Martin. Radiation therapy in various diseases of the central nervous system, by A. A. Datta and R. J. Guttmann. Radiation therapy in diseases of the nervous system, by R. W. Barlow. Radiation therapy in diseases of the eye and ear, by A. U. Dugan. Radiation therapy in diseases of the muscles, bones, joints and tendons, by H. F. Hertz and M. I. Susskind. Radiation therapy in diseases and dysfunctions of the glands of internal secretion, by L. J. Marmorek. Radiation therapy in inflammatory diseases, by E. A. Clark. Radiation therapy in

diseases of the skin, by J. I. Kilar and E. A. Clark. Radiation treatment and injuries, by G. M. Mackay and A. C. Caplan. The civil liability of the radiologist, by R. W. Dossman. Supplement 1. Low intensity radium needles, by C. L. Martin. Supplement 2. Dose-rate calculation in radium therapy. Index.

Note: (197) Together the chapters of this work constitute useful and authoritative guide to the potentialities and techniques of radiation therapy. The coverage of radiology is not comprehensive, but those included are described explicitly and in detail. Literature references are included both for the techniques described in full and those only mentioned. In this edition the title was changed from the former Clinical radiation therapy to indicate the inclusion of techniques based on radium, radioactive isotopes, etc. Revisions of text and additions to the bibliography are found throughout the book.

POPFEL MAXWELL HERBERT

Roentgen manifestations of pancreatic disease. Springfield, Illinois Charles C Thomas, 1951 389 p. illus. 25 cm. \$8.50 1069

Contents: General considerations. The pancreas. The duodenum. Roentgen methods of examination. Roentgen manifestations. Calcifications of the pancreas. Primary pancreatic tumors. Pancreatic infections. Pancreatic (neoplasms) insufficiency. Lesions of the pancreas of secondary origin. Differential diagnosis. Statistics. References. Index.

Note: A series of 144 reproductions of roentgenograms, some of which illustrate conditions never pictured before, are features of this valuable monograph. The work is not limited to pancreatic disease but includes diseases and abnormalities of the surrounding viscera as well. The author is Associate Professor of Clinical Radiology at New York University-Rockefeller Medical Center.

RABIN COLEMAN B

X ray diagnosis of chest diseases. Baltimore The Williams & Wilkins Company 1952 208 p. illus. 26 cm. \$12.00. 1070

Contents (abridged) Part I, General considerations: The value of special examinations. The use of accessory apparatus. The use of contrast media. Fluoroscopy. Part II, General Roentgen pathology—the roentgenologic manifestations of simple pathologic processes. The normal chest. Conditions bordering on the normal. Complications of the lungs. Pulmonary infection. Contusions. Calcifications. Part III, Regional Roentgen pathology—roentgenologic manifestations of the diseases. Part IV, Differential diagnosis of certain Roentgen shadows. Abnormalities of the pulmonary markings. Empty defined lesions. Round circumscribed shadows. Differential diagnosis of pulmonary lesions. Interpretation of Roentgen sketches. Bibliography Index.

Note: A thorough treatment addressed primarily to specialists in radiology. What can be seen of chest abnormalities and changes by fluoroscopy and roentgenography is discussed thoroughly and in detail. Detailed conditions that do not show on roentgenograms but may be diagnosed by other techniques are also mentioned. As might be expected, most of the space is devoted to roentgenography, but fluoroscopy is given about 37 pages. There are 228 figures and an extensive bibliography. The importance of studying series of roentgenograms of the same patient is stressed.

RITVO MAX

Chest X ray diagnosis. With 615 illustrations on 418 engravings and a colored plate. Philadelphia Lea & Febiger 1951 558 p. illus. (part col d) 26 cm. \$15.00 1071

Contents (abridged) The lungs. The mediastinum. The diaphragm. The pleura. The heart and the soft tissues of the chest wall. The soft tissues of the neck. The heart and great vessels. The aorta. The pulmonary artery. The pericardium. Index.

Note: A treatise based on the author's 30 years of experience in the Department of Radiology of Boston City Hospital and in private practice. It covers specifically and in detail the diagnosis by means of roentgenography of diseases and lesions of the tissues of chest and neck. Although the greater part of the space is given to diseases of the heart and lungs and the tissues directly associated with them, there are discussions of other tissues, for instance the breast, which are not always as clearly as best presented in the chest. The kinds of X-ray diagnosis in this region are discussed as well as its use. Specialized techniques such as kymography are discussed. The illustrations, most of which are reproductions of roentgenograms, are an especially valuable feature. Literature references are included.

RITVO, MAX

Roentgen diagnosis of diseases of the skull. With four hundred and sixty-six illustrations. Foreword by George W. Holmes. New York: Paul B. Hoeber Inc., 1949. 409 p. illus. 27 cm. (Annals of roentgenology a series of monographic atlases. Vol. XIX) \$16.00 1072

Contents: The roentgenologic examination of the skull. Congenital, hereditary and developmental anomalies. Traumatic and postoperative changes. Infections. Nutritional, endocrine, and metabolic disturbances. Roentgen study of the fetal skull during pregnancy. Intracranial calcifications; foreign bodies; intracranial aneurysms of bled off; intracranial calcifications. Neoplasms. Cranial angiography index.

Note: Most of the illustrations in this work are reproductions of roentgenograms selected from the files of the Boston City Hospital. The author has made special effort to represent rare conditions as well as common ones. Another useful feature is the inclusion for purposes of comparison of roentgenograms of normal skulls, both infant and adult. The illustrations take up most of the space; but the long legends which accompany them and the more generalized text are valuable also. The author is a member of the faculty of the Medical School of Harvard University.

RITVO MAX AND I. A. SHAUFFER

Gastrointestinal X-ray diagnosis. 470 illustrations with 2 in color. Philadelphia: Lea & Febiger, 1952. 838 p. illus. (part color) 24 cm. \$20.00 1073

Contents: General considerations. The pharynx—the esophagus. The stomach. The duodenum. The jejunum and the ileum. The colon. The appendix. The gallbladder. The liver. The pancreas, spleen, mesenteric masses, peritoneum and abdomen. Barium. Index.

Note: A comprehensive treatise in which both common and rare gastrointestinal conditions subject to diagnosis by X-ray are covered. It is addressed primarily to graduate roentgenologists and gastroenterologists. Although limited largely to diagnosis, certain material of bacteriology and occasional laboratory work is included, for instance, "There is distinction between erosions, acute ulcers and chronic ulcers. An acute ulcer is localized loss of tissue which penetrates deeper than the superficial erosion. A more superficial loss of tissue is referred to as an erosion. Extensive loss of the related mucosa are included. Most of the illustrations are reproductions of roentgenograms. In some instances larger scale would have been desirable, but in general the reproductions are clear."

SCHWARTZ CHARLES WADSWORTH AND LOUIE COWAN COLLINS

The skull and brain roentgenologically considered. Springfield Illinois: Charles C. Thomas, 1951. 386 p. illus. 24 cm. \$10.50 1074

Contents: Techniques. General skull. Practical considerations. Congenital anomalies. Traumatic disorders. Metastatic disease—skull—intracranial. The meninges. The plasma. Tumors of the hypophyseal cavity. Tumors of the acoustic nerve. Lesions of blood vessel origin. Metastatic tumors. Infectious diseases. Miscellaneous diseases. Index.

Note: A reference manual on the interpretation of roentgenograms of the skull and brain. It is organized around more than three hundred excellent reproductions of roentgenograms. The pictures are accompanied by concise discussions of the anomalies and diseases manifested by them. Roentgenograms that are clearly typical of the disorders represented were chosen rather than borderline cases. However, special points useful in differential diagnosis are included in the discussions and in three charts. The authors are members of the faculty of the College of Physicians and Surgeons of Columbia University.

SHURTLEFF, FORREST E

Children's radiographic technic. Philadelphia: Lea & Febiger, 1951. 80 p. illus. 26 cm. \$3.75 1075

Contents: Equipment and accessories. Children's radiographic positions. Special radiographic procedures. Children's technic. Index.

Note: A brief but clear description of the special techniques which have been developed at the Children's Medical Center in Boston for X-ray examinations of children. Thirty-two figures illustrating positions and apparatus are included. The final chapter tabulates the procedures according to the part of body being X-rayed and age of the child.

STEEL DAVID

Roentgen anatomy. Roentgen anatomy. Springfield Illinois: Charles C. Thomas, 1951. 109 p. illus. 32 cm. \$8.00. 1076

Note: An atlas of roentgenograms selected so as to illustrate the appearance in roentgenograms of normal anatomic structures. The book is organized so that each roentgenogram from a given part of the structure are identified in both English and Spanish terms.

STORCH, CHARLES B

Fundamentals of clinical fluoroscopy with essentials of roentgen interpretation. New York: Grune & Stratton, 1951. 196 p. illus. 26 cm. \$6.75 1077

Contents: Basic concepts—mechanics, protection and dark adaptation. Fluoroscopy of the chest—General fundamentals. Fluoroscopy of the pathological chest. Fluoroscopy of the heart. Types of heart. Fundamentals of specific chamber enlargement. Pericardial effusion. Fluoroscopy of the pathological heart. Fluoroscopy of the pharynx, hypopharynx and esophagus. Fundamentals. Pathological examination. Fluoroscopy of the stomach. Fundamentals. Fluoroscopic procedure. The pathological stomach. Fluoroscopy of the colon. Fundamentals. Fluoroscopic methods of examining the colon. Fluoroscopic study of the pathological colon. Radiography index.

Note: A comprehensive and practical guide to the techniques of fluoroscopic examinations. It is written for general practitioners and other physicians who are not specialists in roentgenology but who use the fluoroscope to diagnose. Each chapter includes descriptions of the anatomy of the region under discussion, preliminary position of the patient, positioning, examination procedure, and fluoroscopic interpretation of the fluoroscopic images. There are 177 illustrations and selected bibliography. The author is a member of the staff of the Radio-diagnostic Department of Beth-Israel Hospital, Brooklyn, New York.

YEAR BOOK OF RADIOLOGY

The 1952 year book of radiology (June, 1951-June, 1952). Radiologic diagnosis edited by Fred Jenner Hodges and John Floyd Holt. Radiation therapy edited by Harold W. Jacox and Vincent P. Collins. Chicago: The Year Book Publishers, Inc., 1952. 416 p. illus. 23 cm. \$7.50 1078

Contents: Part I, Diagnosis: Introduction. Technical developments. The hand. The spine and extremities. The chest. The gastrointestinal tract. The genitourinary tract. Part II, Radiation therapy: Introduction. Head and neck. Breast. Gynecology. Gastrointestinal system. Blood dyscrasias, lymphomas and allied diseases. Malignant diseases. Hematologic and leukemic. Treatment techniques. Physics and dosimetry. Radiobiology. Index to authors.

Note: (1952) The twenty-first issue of a series that provides an annual review of the latest developments and experience as they were reported in the international literature published June, 1951-June, 1952. Each chapter consists of series of abstracts, each of which gives the gist of an original article and is often supplemented by an editorial note which evaluates the author's findings and relates them to other work. The original source is cited in all cases. There are 287 figures in the present issue.

ZIRKLE, RAYMOND ELLIOTT editor

Effects of external beta radiation. New York: McGraw-Hill Book Company Inc., 1952. 242 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 22 B) \$3.50 1079

Contents: Techniques of external irradiation with beta rays, by J. R. Raper and others. Gross effects of beta irradiation on irradiated surface of rabbits, by J. R. Raper and others. Comparative lethal effects of external beta irradiation, by J. R. Raper and others. Gross effects of total surface beta irradiation, by J. R. Raper and K. K. Barnes. Rate of recovery from total surface beta irradiation, by J. R. Raper and K. K. Barnes. Additivity of lethal effects of external beta and gamma irradiation, by J. R. Raper and K. K. Barnes. Influence of total-surface beta irradiation on the gross metabolic pattern of rats, by E. A. Barnes. Histopathological effects of single doses of total surface beta radiation on mice, by R. R. Sandler and J. R. Raper. Effects of external irradiation with beta rays on the peripheral blood of rabbits, by J. R. Raper and K. K. Barnes. Changes in peripheral blood after single doses of external beta radiation, by E. A. Barnes. Reactions of human skin to single doses of beta rays, by J. K. Wirth and J. R. Raper. Delayed effects of single exposures to external beta rays, by J. R. Raper and others. Effects of periodic total-surface beta irradiation, by J. R. Raper and others. Abnormal tissue developments of rats exposed to beta rays. Late effects of low beta rays, by P. R. Henshaw and others. Review of information bearing on the long-lasting action of superficial irradiation, by P. R. Henshaw and R. R. Sandler. Index.

Note. The papers in this volume are summarized reports of experimental investigations carried out as "part of an intensive radio-biological program at Chatham Laboratories, Oak Ridge, Tennessee during World War II. Experimental methods employed and the results are both described explicitly. As the chapter lists indicate, most of the experiments were concerned with external beta rays. The energy of this radiation is actually absorbed in superficial layer of tissues and it is therefore in direct contact only to the skin and exposed organs. However, some experiments were made to throw light on the effects of exposure to gamma radiation distributed uniformly or subcutaneously to the exposure to beta rays. Literature references are included with most of the chapters.

DISEASES GENERAL

BODANSKY MEYER

Biochemistry of disease, by M. Bodansky and O. Bodansky. Second edition thoroughly revised and enlarged, by Oscar Bodansky. New York: The Macmillan Company, 1952. 1208 p. illus. 24 cm. \$12.00. 1080

Contents: Diseases of the blood. Diseases of the heart and cardiovascular system. Diseases of the respiratory tract. Diseases of the kidney and genitourinary tract. Diseases of the digestive system. Diseases of the liver and biliary tract. Diseases of the pancreas. Diseases of the skeleton. Diseases of the sensory system. Diseases of the thyroid. Diseases of the parathyroids. Diseases of bones. Diseases of muscles. Diseases of the male glands. Applications of biochemistry in obstetrics and gynecology. Miscellaneous disorders of nutrition. Miscellaneous disorders of metabolism. Biochemical aspects of neurological and psychiatric disorders. Appendix. Index of subjects.

Note. (1211) As this book indicates, this treatise is concerned with the biochemical aspects of clinical medicine. It is addressed to uppermost medical college students and to practicing physicians. It is of interest also to the upper ranks of technical personnel in diagnostic laboratories. The scope is comprehensive. Thus, there is not only discussion of the biochemistry of thyroid disease, but also of such matters as the biochemical aspects of electric shock used in the treatment of psychoses. Extensive bibliographies are included. The first edition appeared in 1940. This edition represents an almost complete rewriting and considerable expansion. Many diseases are now included which were not mentioned in the first edition.

BOYD WILLIAM

The pathology of internal diseases. Fifth edition thoroughly revised with 391 illustrations and 11 colored plates. Philadelphia: Lea & Febiger, 1950. 866 p. illus. (part col'd) 24 cm. \$11.00. 1081

Contents: Diseases of the heart. Diseases of the arteries. Diseases of the respiratory system. Diseases of the stomach and duodenum. Diseases of the pancreas. Diseases of the liver and gall-bladder. Diseases of the prostate. Diseases of the kidneys. Diseases of the adrenal glands. Diseases of the thyroid gland. Diseases of the parathyroid glands. Diseases of the pituitary body. Diseases of the blood. Diseases of the spleen. Diseases of the lymph nodes and lymph glands. Diseases of the nervous system. Diseases of the bones and joints. Index.

Note: (1212) A long-established textbook of internal medicine written from the point of view not of diagnosis or of treatment but of the mechanism of disease. Thus the pathologic and histologic aspects of diseases are fully discussed; and the relation of symptoms to lesions concludes the discussion of most subjects. The fifth edition includes a new chapter on diseases of the bones and joints; and numerous similar sections have been incorporated in its various parts. However, considerable part of the book is identical with the preceding edition and few references to recent literature have been added to the bibliography.

EVANS, EARL ALISON JR.

Biochemical studies of bacterial viruses. Chicago: The University of Chicago Press, 1952. 68 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine) \$2.75. 1082

Contents: The nature of the virus particle. The origin of viral components. The mechanism of virus reproduction. Bibliography.

Note: The lectures collected in this volume are in effect a condensed survey of the results of recent work done at the University of Chicago on the biochemical aspects of the relationships between viruses and host cells. Some results from related research of other workers are incorporated. The lectures were originally delivered under the auspices of the Institute of Atomic Research at Iowa State College. They were addressed to graduate scientists working in other fields; hence the author assumes familiarity on the part of his audience (and readers) with the technical terminology of biology and chemistry. Literature references are included. Therefore the book can be used also as a guide for published papers which relate to the studies done at the University of Chicago.

HARRIS HAROLD JEROME

Brucellosis (undulant fever) clinical and subclinical. Second edition revised and enlarged. With the assistance of Blanche L. Stevenson. Foreword by Walter M. Simpson. With 111 illustrations. 12 in full color. New York: Paul B. Hoeber Inc., 1950. 617 p. illus. (part col'd) 24 cm. \$10.00. 1083

Contents: Introduction. Etiology. Epidemiology. Pathology. Symptomatology. Diagnosis. Psychologic studies in chronic brucellosis. Prognosis. Treatment. Prophylaxis. Adjuvants. Bibliography. Index of authors. Index of subjects.

Note: A comprehensive monograph written primarily for general medical practitioners. However its scope is so inclusive that it is used also to specialists in clinical medicine, public health personnel, etc. The author himself attended some 700 cases of brucellosis over 15-year period. In addition to this experience he has surveyed the literature and incorporated the findings of other investigations, whose writings are listed in the 44-page bibliography. Such troublesome phases of the problem as differential diagnosis are discussed at length. Public health aspects also are covered. The first edition was published in 1941. The present edition is based on substantially higher number of cases and on the pertinent literature published since 1941. All of the chapters have been revised and enlarged.

NEW YORK ACADEMY OF MEDICINE

The musculoskeletal system. A symposium presented at the twenty third graduate fortnight of the New York Academy of Medicine, October ninth to twentieth, 1950. Edited by Mahlon Ashford. New York: The Macmillan Company, 1952. 368 p. illus. 22 cm. \$6.50. 1084

Contents: The structure and histological reactivity of connective tissues, by J. Goss. The chemistry of connective tissue, by M. Schubert. On certain aspects of the physiology of muscle, by J. L. Edsall, Jr. Metabolism and disorders of muscle function, by D. McKusick. Metabolism of calcium and phosphorus in bone, by I. E. Howard. Metabolic bone diseases—facts and theories, by I. Sapper. Skeletal changes associated with diseases of the blood, by M. L. Sussman. The clinical effects of cortisone and ACTH on rheumatic diseases, by J. J. Brandt. Rheumatic disease: the natural history of the disease and its management, by C. Zipes.

Diagrams. Descriptions of diseases are explicit and adequately detailed. Various descriptions are directly related to the illustrations of which there are so many that the book could justly be described as an atlas of kidney diseases and abnormalities. The total number of plates is 139 and most of the plates contain reproductions of several photographs or microphotographs. Long lists of references are included.

ALTSCHUL, RUDOLF

Selected studies on arteriosclerosis. Spring
field, Ill. Charles C Thomas 1950 182 p.
illus. 24 cm. \$5.50 1102

Contents. Relationship between human and experimental arteriosclerosis. Experimental cholesterol arteriosclerosis. Cytology of endothelium. Diffusion of cholesterol and metabolism of endothelium. On the formation of foam cells in arteriosclerosis. Experimental rupture of arteries—appendix to chapters vi and vii. On the stimulation of experimental arteriosclerosis. Variations of time and stage responses in experimental arteriosclerosis. On various time factors in arteriosclerosis. Systematic description of cholesterol lesions in human and experimental arteriosclerosis. Experimental approaches. Attempts to influence the intensity of cholesterol lesions. Summary and comments. Bibliography. Author index. Subject index.

Note. The author of this book describes his purpose as follows: "Several different aims were pursued in the preceding chapters to bring out more distinctly some unworked morphological problems in human and experimental arteriosclerosis to attempt an accurate analysis of cellular pathology in various morphological and to compare them; to report on findings in human and in experimental arteriosclerosis which had hitherto been overlooked; and also to describe results in experimental cholesterol arteriosclerosis which had previously been obtained and to modify the technique of experimental arteriosclerosis with the idea of obtaining new results. In it he has correlated certain results of his own experimental investigations with the findings of other workers in the field."

BARKER, JOSEPH M

The unipolar electrocardiogram a clinical
interpretation By Joseph M. Barker assisted
by Joseph J. Wallace, advised by Wallace M.
Yater. Foreword by Frank N. Wilson. New
York Appleton-Century-Crofts, Inc., 1952
655 p. illus. 25 cm. \$12.50. 1103

Contents (abridged). General considerations of electrocardiography and of the electrocardiogram. Fundamental electro phenomena and the electrocardiogram. The components of normal electrocardiograms. The standard extremity leads. Electrocardiography—leads for interpretation of the electrocardiogram. The normal myocardium. The potential variations of the extremities. Bundle branch block and other types of intraventricular block. Myocardial infarction. Treatment approached between and injury. Ventricular hypertrophy or ventricular enlargement. The atrial (atrial) complex and its subsidiary considerations of the cardiac cycle. The arrhythmias. Disturbances of cardiac rhythm due to impulses arising from myocardial foci—disturbances of impulse conduction (heart block)—disturbances of cardiac rhythm due to impulses arising from heteropatrial foci. Abnormalities of atrioventricular conduction. Bundles, repeating and coding electrocardiograms. Bibliography. Index.

Note. A substantial chapter written from the standpoint of practical use of the electrocardiogram as the diagnosis and study of heart disease. Basic sections such as the electrical fundamentals, definitions and descriptions of electrocardiographic instruments are well covered in the first six chapters. The remainder of the book consists of chapters based on and connecting clearly of diagnosis of particular cases. Includes and the electrocardiogram study in the course of this diagnosis and treatment. However, the author has bravely drawn conclusions from the cases of which the following is typical: "There is no way to be sure of right ventricular hypertrophy from the unipolar leads alone. The unipolar electrocardiogram is more reliable in revealing the qualitative diagnosis of other conditions. There are 458 figures, of which the majority are reproductions of cardiograms drawn in the past. The bibliography is an extensive one."

BELL, ELEXIUS THOMPSON

Renal diseases. Second edition, thoroughly
revised, with 123 illustrations and 4 color
plates. Philadelphia Lea and Febiger 1950
443 p. illus. (part col d) 24 cm. \$8.00 1104

Contents. Introduction—Classification of renal diseases. Normal histology. Normal and pathological physiology. Developmental considerations. Obstruction of the urinary tract—hydronephrosis. Glomerulonephritis. Tubular diseases. Extrarenal azotemia. Excretory latencies. Latencies of nephritis (nephrocalcinosis). Diseases of the blood vessels. Diseases of the kidney related to metabolic disorders. Tumors of the kidneys. Index.

Note. (1977) The purpose of this monograph is to bring about closer cooperation between the pathologist and the clinician in the understanding of renal diseases. Accordingly for each disease covered the structural changes in the kidney are correlated with the clinical manifestations. In the case of diseases where the pathology is not fully understood, the crude syndrome for instance, the views of various authorities are carefully stated. The book is based on experimental studies and very extensive series of cases. In the second edition the basic plan has not been changed, but several chapters have been revised and the bibliographies brought up to date.

BROWN, HERBERT RUTHERFORD, JR., AND OTHERS

Clinical ballistocardiography by Herbert
R. Brown, Jr., Vincent deLalla, Jr., Marvin A.
Epstein, and Marvin J. Hoffman. New York
The Macmillan Company 1952 188 p. illus.
22 cm. \$5.50 1105

Contents. Part one, Normal section: What is the ballistocardiogram and what is its value? The history of the ballistocardiogram. Types of apparatus used in recording the ballistocardiogram. Physical considerations in the construction of ballistocardiograph. The normal ballistocardiogram. Cardiac output. Respiratory variation of the ballistocardiogram. Part two, Abnormal section: Significance of normal and abnormal patterns. Abnormal respiratory variation of the ballistocardiogram. Hypertension. Myocardial infarction. Aortic stenosis. Congestive failure. Rheumatic heart disease. Miscellaneous disorders. Index.

Note. Ballistocardiography appears to have only recently become available as clinical means for the identification of circulatory and cardiac disease. The monograph was written by four medical doctors who made a special study of the technique and its application over the period 1944-1952 at the University of Rochester. The authors present all pertinent data in the field as guides to other doctors interested in the use of ballistocardiography apparatus. Included are many examples of normal and abnormal ballistocardiograms and the summarized findings of records made in the laboratory of the authors.

CONFERENCE ON ELECTROKYMNOGRAPHY

Proceedings of the first Conference on Elec-
trokymnography held May 25-26 1950 in
Bethesda, Md., sponsored by the National
Heart Institute. Editors Bert R. Boone,
Frederick G. Gillick, Russell H. Morgan, and
Morton J. Oppenheimer. Washington, D. C.
Government Printing Office, 1951 215 p. il-
lus. 23 cm. (United States. Federal Security
Agency Public Health Service publication
59) Paper \$0.75 1106

Contents. Introduction. Physiological and clinical aspects. Electro-
kymnographic recordings of denervation of the heart, by G. C. King. Left ventricular border method, by Elmer Dick. Correlation of the border method of the heart and great vessels as recorded by the electrokymnograph with intracardiac pressure changes, by J. E. Long. Great vessel studies, by H. E. Hoyer and others. Atrial phenomena, by A. A. Lohman. Physiology of the pulmonary vessels, by A. A. Lohman. Electrocardiographic studies of electrical and mechanical synchronism in the cardiac cycle, by F. S. Brown and others. The use of the electrokymnograph for determination of pulse wave velocity, by F. L. Rasmussen. Electrocardiography as a sensitive procedure—comparison with electrokymnography and right ventricular pressure curves, by V. A. McKusick. Electrocardiographic studies of the middle arch, by F. A. Barrow. Measurement of the diameter of the aorta with the electrokymnograph—a progress report, by H. L. Taylor and others. Electrical denervation, by W. E. Chamberlain. Instrumental aspects. The electrokymnograph—status in recording fidelity, by H. S. Elmer, Jr. and others. Some characteristics of an electrokymnographic instrument, by M. Landwehr. Density calibration and hyperbolic amplifiers, by F. W. Noble. Calibration of border method, by G. C. Henry. Papers presented by title and abstract. Bibliography on electrokymnography. Index.

Contents (abridged) Section I. The normal heart: Physical examination of the cardiovascular system. Recording and timing of heart sounds and murmurs, and palpation of the heart and blood vessels. X-ray examination of the heart. Electrocardiographic examination. Tests of circulatory efficiency. Section II. The abnormal heart: Symptoms attributable to the cardiovascular system. Abnormal physical signs referable to the cardiovascular system. Abnormal findings on electrocardiogram and X-ray examination. Abnormal electrocardiographic findings. Abnormal findings in tests of circulatory efficiency. Section III. Cardiac syndromes: Congestive heart failure. The shock syndrome. Syncope and related states. The aortic syndromes. Myocardial infarction. The cardiac arrhythmias. Premature contractions, and paroxysmal tachycardia. Atrial fibrillation, and ventricular fibrillation. Bundle branch block. Section IV. Systematic description of cardiac abnormalities: Congenital heart disease. Aortic and aortic defects. Ventricular septal defects. Congenital valvular and endocardial lesions, and congenital stenosis of the valves. Myocarditis. Rheumatic fever. Bacterial endocarditis. Rheumatic heart disease. Syphilitic heart disease. Hypertensive heart disease. Diseases of the coronary arteries. Diseases of the pericardium. Diseases of the aorta, pulmonary artery and other blood vessels. The heart in endocrine diseases. The heart in nutritional, metabolic and other diseases. Tumors of the heart. Cardiac trauma. Section V. Special conditions complicating heart disease. Index.

Note: A textbook and reference manual in which techniques of physical diagnosis are emphasized. However, basic information on the use of such techniques in electrocardiography and electrocardiography is included. The point of view from which the book is written is that physical techniques are still the most used in the diagnosis when the patient is first seen, and that they can still be employed to provide a wide range of dependable information about the heart diseases of most patients. The discussion of most diseases are very concise and cover, generally speaking, pathology, pathological physiology signs and symptoms, findings in fluoroscopic, X-ray, electrocardiographic, catheterization, and electrocardiographic studies, diagnosis, course and prognosis, and treatment. Most of the illustrations are descriptive representations of essential features of electrocardiogram and X-ray pictures and of electrocardiograms. Selected bibliographies which are largely limited to easily accessible literature in the English language are included.

GOLDBERGER EMANUEL

Unipolar lead electrocardiography Second edition, thoroughly revised with 221 illustrations. Philadelphia Lea & Febiger 1949 392 p. illus. 24 cm. \$10.00 1114

Contents (abridged) Section I. The principles of electrocardiography and the unipolar electrocardiogram: The electrical currents produced by normal heart activity. The method of taking unipolar extremity leads and unipolar precordial leads. The basic normal unipolar lead patterns. The normal electrocardiogram—the effect of the position of the heart on the unipolar electrocardiogram. Measurements of the waves and amplitudes of the electrocardiogram and their normal values. Section II. Abnormal electrocardiographic patterns: The effects of hypertrophy of the heart on the electrocardiogram. Bundle branch block. Myocardial injury. Functional changes in the ST-T segment and T wave. Section III. Normal and abnormal cardiac rhythms: Sinus rhythm. A-V nodal rhythm. A-V block and A-V dissociation. Premature contractions. Paroxysmal tachycardia. Atrial fibrillation and atrial flutter. Atrial fibrillation. Appendixes. Index.

Note: (194) A standard treatise on electrocardiography with unipolar leads, or leads arranged as to record the potentials from single regions of the body. It is based on the author's own extensive study of this technique and on the literature. The first edition was published in 1947. In this edition the work contains fully twice as much text and 221 illustrations in comparison to 88. As was the first edition, this edition is addressed primarily to medical college graduates who are taking graduate work in heart diseases or who are beginning the practice of this specialty.

GRANT ROBERT P., AND E HARVEY ESTES JR.

Spatial vector electrocardiography: clinical electrocardiographic interpretation. New York The Blakiston Company 1952 149 p. illus. 22 cm. \$4.50 1115

Contents: Part I. The spatial vector method of interpretation. The vectors of the heart. The basic leads as vector measurements. The processed leads as vector measurements. The method for calculating the spatial vectors from conventional leads. Part II. The clinical application of the spatial vector method: The characteristics

of the spatial vectors in the normal subject. The abnormal ECG. Abnormalities of the QRS vectors. Abnormalities of the T vector. The vectors in myocardial infarction. The ventricular gradient. Broader implications of the spatial vector method. Bibliography. Index.

Note: This little volume is not intended to serve as a textbook on electrocardiography but rather to explain how vector methods may be applied in the clinical interpretation of electrocardiograms. The book is written for the general practitioner and does not require any special training in physics or mathematics. Technical terminology has been avoided, and only those theoretical aspects of the subject which are essential to clear understanding of the clinical applications are included.

GRAYBIE ASHTON AND OTHERS

Electrocardiography in practice, by Ashton Graybie, Paul D White, Louise Wheeler Conger Williams. Third edition with 294 figures. Philadelphia W B Saunders Company 1952 378 p. illus. 28 cm. \$10.00 1116

Contents (abridged) Part I. Introduction: Physiologic principles. Principles of operation of the galvanometer. Part II. Methodology: Methodology. Part III. The typical normal electrocardiogram and its variations: Electrical orientation of the heart. Chest and respiratory factors. Limb leads. Electrocardiographic variations due to physiologic factors. Artifacts and technical errors. Part IV. Disorders of rhythm and conduction. Part V. Electrocardiographic alterations due to drugs and chemicals. Part VI. Electrocardiographic patterns. Part VII. Etiologic types: Congenital heart disease. Rheumatic heart disease. Ischemic heart disease. Coronary artery disease. Cardiac infarction. Myocarditis. Endocarditis. Disorders. Hypertensive heart disease. Cor pulmonale. Coronary heart disease. Part VIII. Electrocardiography for practice in interpretation. Index.

Note: (1947) A useful book for the general medical practitioner. The first three parts are introductory to the subject; however, following these parts of the book is given to representations of electrocardiograms. Each electrocardiogram is accompanied by concise descriptions and fairly detailed interpretations. The cause of cases illustrated is sufficiently varied to lead the book seems relevant for the specialist. The second edition was published in 1944. This third edition represents an extensive revision. Now the first chapter outlines the historical developments of electrocardiography; the principles of vector cardiography are explained although the reader is warned that this technique is not yet ready for general clinical use, and many new electrocardiograms have been included. The format of the volume has been improved.

GREGG DONALD EATON

Coronary circulation in health and disease. 73 illustrations. Philadelphia Lea & Febiger 1950 227 p. illus. 24 cm. \$4.50 1117

Contents: Introduction: A statement of the problem. General systematic considerations. Experimental approaches to the coronary circulation. Properties. Cardiac pressure and their determination. Experimental approaches to the coronary circulation. Coronary flow—its determination. Distribution of coronary blood flow. Phase flow curves. The determinants of coronary blood flow and their evaluation. Metabolism and work. The coronary circulation in heart disease and heart failure. Index.

Note: In the original monograph the author has summarized the results of his own fifteen years of experimental investigation of coronary circulation and the related work of other scientists. After evaluating the extent of the heart disease problem he proceeds to analyze and discuss experimental findings and techniques. Most of the experiments covered were made on animals, especially the dog, but in the final chapter the author considers human heart disease and especially atherosclerosis in man. Each chapter has an extensive bibliography of studies from throughout the world during the past 25 years. The author is Chief Research Physician, Medical Department, Ford Research Laboratory Fort Knox, Ky.

HOLDEN WILLIAM D

Acute peripheral arterial occlusion. Springfield, Illinois Charles C Thomas, 1952 illus. 66 p. 22 cm. (American lecture series. Publication no. 141) A monograph in American lectures in circulation, edited by Irvine H. Page and A. C. Corcoran. \$2.35 1118

supplement to existing volumes on heart disease and act as a full-scale treatise. Study of the hole patient in order to get the correct clinical picture is emphasized and the author includes suggested form for history taking. The style of presentation is concise. Selected literature references are appended to the chapters. There are 116 figures.

DERMATOLOGY

BAER, KARL AMADEUS

Pathology and physiology of burns 1942-1951: an annotated bibliography Washington, D. C. Armed Forces Medical Library Reference Division 1952 107 p. 20 cm.

1139

Contents: Body fluids and electrolytes. Bones and cartilage. Cardiovascular system. Classification and standardization. Death (verminous, urina). Endocrine system. Gastrointestinal tract. General and review articles. Infections and bacteriology. Kidneys. Legal aspects. Liver. Muscles. Nervous system. Nitrogen balance. Respiratory system. Skin. Spleen. Systemic effects (including shock). Author Index.

Note: An annotated bibliography of the international literature published since 1942. It is limited to literature bearing on the pathology and physiology of burns.

LEVER, WALTER F

Histopathology of the skin. With 221 illustrations, including 8 subjects in color on 4 plates. Philadelphia J. B. Lippincott Company 1949 449 p. illus. (part col'd) 24 cm. \$10.00 1140

Contents: Introduction. Embryology of the skin. Histology of the skin. Laboratory methods. Morphology of the mesodermal cells. Congenital diseases (Gonorrhea). Neoplastic inflammatory diseases. Eruptions due to drugs. Degenerative diseases. Bacterial diseases. Sporadic diseases. Fungal diseases. Diseases caused by poisons. Diseases caused by viruses. Metabolic diseases. Systemic diseases of unknown cause. Epithelial tumors. Mesodermal tumors. Malignant lymphomas and mycoses. Index.

Note: A book of primary interest to dermatologists. The histological embryology and laboratory techniques are briefly covered in preliminary chapters, but most of the space is given to the pathology of skin diseases. Both gross and microscopic clinical features are described, but considerable part of the text and most of the illustrations deal with microscopic pathology. The book was developed to course given by the author in Harvard Medical School to graduate students. Extensive literature references are included. The illustrations are of excellent quality.

LEWIS, GEORGE MORRIS

Practical dermatology for medical students and general practitioners. Philadelphia W. B. Saunders Company 1952 328 p. illus. 25 cm. \$7.50 1141

Contents: Diagnostic methods. Acne and the sebaceous disorders. Pruritus (symptomatic and essential) psychogenic implications. The exanthematous dermatoses. Urticaria, "toxic" erythemas, and drug eruptions. The so-called collagen diseases. The chronic calcareous disorders. The acute pyoderma-exanthematous diseases. The pruritus. Fungal infections. Tetrachloro and allied disorders. Syphilis. Virus and other infectious diseases due to subcutaneous parasites. Hyperkeratosis. Degenerative atrophy. Congenital (nevoid) anomalies. Disorders of the mucous membranes. Disorders of the nails and hair. Disorders due to physical agents. The skin and other organs. Drugs. Various metabolic disorders. Premalignant and malignant tumors. Inherited lymphoblastomas. Dermatologic therapy. Dermatologic laboratory bibliography. Index.

Note: Twenty-nine plates, each made up of from one to six reproductions of original photographs, are a special feature of this concise guide. The textual descriptions cover symptoms, etiology, diagnosis, and treatment, with occasional variations in form. Lists of tests, terms, and terminology of common syndromes plus bibliography of general texts and special monographs round out the usefulness of the book to the general practitioner. History. The author is Professor of Clinical Medicine (Dermatology) in Cornell University Medical College.

PECK, SAMUEL MORTIMER, AND GEORGE KLEIN

Therapy of dermatologic disorders including a guide to diagnosis and a dermatologic pharmacopeia. Philadelphia Lea & Febiger 1951 383 p. illus. 24 cm. \$6.50. 1142

Contents: (abridged) Part I: Guide to diagnosis. Part II. Classification and treatment of the various skin disorders. The latest principles underlying dermatologic therapy. Physical therapy in dermatology. Diagnosis and treatment of internal diseases, by W. Lewis. Part III. Dermatologic pharmacopeia. Removal of medical status. Index.

Note: A compact reference book for the office. Review of medical practitioners. It covers the most common skin disorders in regard to their etiology, clinical characteristics, and treatment. Much of the specific data on diagnosis is organized in 10-page table entitled "Differential diagnosis of the most common skin diseases." The pharmacopeia section contains an alphabetically arranged list of drugs and of selected proprietary compounds which are useful in dermatologic therapy. In each instance the drug is described in chemical and physical terms and its usage and dosage are stated. According to the authors, the contents of the book have been selected on the basis of their own experience. The first-named author is a member of the faculty of the College of Physicians and Surgeons of Columbia University. The second-named, a member of the faculty of New York Medical College.

SULZBERGER, MARION B., AND JACK WOLF

Dermatology essentials of diagnosis and treatment. Chicago The Year Book Publishers Inc., 1952 592 p. illus. 22 cm. \$10.00. 1143

Contents: General dermatologic management. Neoplastic diseases. Urticaria—angioedema. Alopecia. Dermatitis. Dermatitis due to fungi. Acne vulgaris and other acneiform dermatoses. Psoriasis. Seborrheic dermatitis—eczema—contact—ACTH—corticosteroids. Eczema (eczema due to allergic reactions). Contact dermatitis. Eczema (eczema due to allergic reactions). Drug eruptions. Miscellaneous skin disorders. Early syphilis. Other forms of syphilis. Index.

Note: (1952) A revision of the author's well known *Dermatology* therapy in general practice, of which the third edition appeared in 1948. Although it bears new title, the purpose of the work is unchanged and its content has been changed only to the extent necessary to bring it abreast of new developments. Much of the material pertains to the newer techniques. ACTH—corticosteroids. Chapter eight, for instance, has been completely rewritten. Though "neurodermatitis" still appears in its title, the authors state in its text that, except in the rarest of exceptional circumstances, in the topical application of corticosteroids no longer has place in dermatologic therapy. The book remains an introduction for medical college students and a reference book for general practitioners of medicine.

SUTTON, RICHARD LIGHTBURN AND RICHARD L. SUTTON, JR.

Handbook of the diseases of the skin. With 1057 illustrations. St. Louis The C. V. Mosby Company 1949 749 p. illus. 24 cm. \$13.50. 1144

Contents: Anatomy. Embryology. Physiology. Symptomatology and pathology. Etiology. Diagnosis. Treatment. Dermatitis due to physical agents. Dermatitis due to chemical agents. Dermatitis due to various. Dermatitis due to radiation. Dermatitis due to bacteria. Dermatitis due to fungi. Dermatitis due to animals. Dermatitis due to metabolic disturbances. Dermatitis of vascular origin. Purpura and ecchymosis. Dermatitis of nervous system. Dermatitis of endocrine origin. Dermatitis of unknown cause. Dermatitis of p. dermatitis. Dermatitis characterized by atrophy. Dermatitis manifestations of malnutrition and neuropathic. Diseases particularly affecting the cutaneous appendages. Diseases of mucous membranes of the skin. Index.

Note: A compact but comprehensive manual in which the authors have covered not only common diseases but also "have laid to the policy of at least mentioning almost everything." The chapters are printed in two sizes of type, with those matters of lesser importance covered in the smaller type. The preliminary chapters on anatomy, physiology, diagnosis, etc., run to only 67 pages; the

remainder of the book is devoted to descriptions of specific diseases. Generally speaking, symptoms, etiology, pathology, diagnosis, and treatment are covered for each disease. Thousands of literature references are included in the text.

TOMAS NORMAN

Essentials of dermatology Fourth edition.
186 figures, 6 subjects in color on 3 plates.
Philadelphia J B Lippincott Company
1952 596 p. illus. (part col'd) 20 cm. \$6.00
1145

Contents: Basic survey. The erythema group. The acne group. Drug eruptions. Fungi. The toxic bullous diseases. The pyoderms. Diseases due to vegetable parasites. Diseases due to animal parasites. Diseases due to filtrable viruses. Diseases due to psychosomatic and nerve disorders. Urticaria. Diseases due to physical agents. The deep infective dermatoses. Tuberculosis of the skin. Syphilis. Bacterial lesions of the skin. Malpighian growths of the skin. The mycetozoa dermatoses. The streptococci of the skin. Staphylococci and allied diseases. The vascular diseases of the skin. Pyodermitides. The cutaneous lymphomatous. The erythematous. Diseases of the hair and of the scalp. Diseases of the sebaceous glands. Diseases of the sweat glands. Diseases of the nails. Diseases of the mucous membranes. Constitutional diseases. Dermatologic therapeutics. Erythema of the hands. Index.

Note: (200) An established survey and reference volume addressed especially to general practitioners of medicine and medical college students. Most of the space is devoted to descriptions of specific diseases, organized in groups as in the chapter index above. The individual diseases are discussed as to etiology, pathology, diagnosis, and treatment. Etiology is not covered. The third edition was published in 1941. In preparing this volume important revisions were made in most of the chapters. Short descriptions of the etiology of the various groups of diseases were added.

YEAR BOOK OF DERMATOLOGY AND SYPHILOLOGY

The 1951 year book of dermatology and syphilology (December 1950-November 1951) Edited by Marion B Sulzberger and Rudolf L. Baer Chicago The Year Book Publishers, Inc. 1952 476 p. illus. 20 cm. \$5.50 1146

Contents: Some common errors in the management of skin diseases. Treatment and prevention (exclusive of venereal diseases). X-ray and other physical therapy. Kosmetology dermatologic and x-ray. (Atheroma and seborrhea)—allergy. Drug eruptions (allergic and nonallergic). Maculopapular hypersensitivity dermatoses. Other dermatoses. Cancer—precancerous—other tumors. Yaws. Infectious. Other infectious—dermatologic venereal diseases and their treatment. Leprosy. Syphilis. Maculopapular. Index. Index to authors.

Note: (900) The program of dermatology and syphilology is presented annually in this illustrated digest of the international periodical literature of these specialties. The period covered in the volume at hand is indicated in the title. The significant articles are selected and are abstracted in full length. In all cases reference to the original publication is given and in many instances the abstract is supplemented by short comment written by the editor. In this issue there are 41 pages. As in the previous years, the index is fully detailed.

OTOLARYNGOLOGY

BOIES LAWRENCE RANDALL AND OTHERS

Fundamentals of otolaryngology a text book of ear nose and throat diseases. By Lawrence R. Boies and associates. Charles E. Connor Anderson C Hixling, Jerome A. Hillger John J. Hochstetler Conrad J. Holmberg, Kenneth A. Phelps, Robert E. Priest, and George M. Tangen. Philadelphia W B Saunders Company 1949 443 p. illus. 24 cm. \$6.75 1147

Contents (abridged): Part I. The ear. Applied anatomy and physiology of the ear. Examination of the ear. Diseases of the external ear and internal auditory canal. Acute otitis media. Chronic suppurative otitis media. Tympanitis. Vertigo. Hearing aids and speech (lip) reading. Part II. The nose. Applied anatomy and physiology of the nose. Examination of the nose. The common cold. Nasal allergy. Chronic nasal obstruction. Acute and chronic sinus disease. Complications of sinusitis. Headache and neuralgia of nasal origin. Epistaxis. Atrophic rhinitis. Injuries to the nose. Part III. The throat. Applied anatomy and physiology of the throat. Diseases of the pharynx. Acute and chronic tonsillitis. Tonsils and adenoids. Hysterical. Laryngeal obstruction. Dysphagia due to disorders of the pharynx. Foreign bodies in the air and food passages. Tumors of the nose and throat. Prescriptions and therapeutic procedures. Index.

Note: A textbook for use in undergraduate courses in medical schools and an office manual for general practitioners of medicine. It is limited to diagnosis, treatment, and related aspects that especially concern the practicing physician. Literature references are furnished with the chapters. There are 184 illustrations, considerable number of which depict operative techniques. The author is a member of the faculty of the University of Minnesota Medical School.

HANDEL FRENCH KELLER

Allergy in relation to otolaryngology An official publication of the American College of Allergists. Saint Paul Bruce Publishing Company 1949 77 p. illus. 20 cm. \$2.50. 1148

Contents: Introduction. Allergy in relation to otolaryngology. Part I. General survey. L. B. Gellman, R. L. Craig, G. F. Knight, M. M. Kahn, W. E. Owen, H. A. Kahn, J. G. H. Smith, and H. A. Abraham. Questions and answers following panel discussion.

Note: The title article occupies the first thirty-one pages of this short book and the panel discussion occupies most of the remainder. The two parts together constitute an informed but authoritative statement of current United States of America medical thought and technique on allergy in disorders of the nose and throat.

HOLLENDER ABRAHAM RIKEL

Office treatment of the nose throat & ear Third edition. Chicago The Year Book Publishers, Inc. 1950 620 p. illus. 21 cm. (The general practice manuals) \$7.50 1149

Contents (abridged): Section One, Part I. General survey. Evaluation of office treatment of nose, throat and ear diseases. Laryngoscopy. Endoscopic therapy. Myringotomy management. Pharmacotherapy. Physical therapeutic procedures. Office surgery. Radiotherapy. Psychosomatic approach to otolaryngology. Section Two, Part II. Diseases of the nose. Part III. Diseases of the paranasal sinuses. Part IV. Diseases of the mouth and pharynx. Part V. Diseases of the larynx. Part VI. Diseases of the ear. Part VII. Miscellaneous disorders. Index.

Note: (447) A widely used manual of the techniques of otolaryngology which can be carried out in practitioner's office as distinguished from those which must be carried out in fully equipped hospitals. The style of presentation is compact and rather wide range of conditions is covered. As the author points out, office treatment now comprises the larger part of the management of ear, nose and throat diseases. Most of the therapies included are physical such as the use of diathermy but there is chapter on minor surgical operations. The second edition was published in 1948. This edition not only longer by more 70 pages, but substantial sections of text that were included in the second edition have been deleted or extensively rewritten.

LEUBNER FRANCIS LOEFFLER

Diseases of the ear nose, and throat. Principles and practice of otorhinolaryngology Clinical technical and procedures. Sixth edition. With 979 illustrations, 20 in color. Philadelphia F A Davis Company 1952 1430 p. illus. (part col'd) 27 cm. \$20.00. 1150

Contents (abridged): Section I. The ear. Anatomy of the ear. Examination and functional tests of the ear. Diseases of the external ear. Diseases of the tympanic membrane and middle ear. Chronic suppurative otitis media. Neoplasms of the middle and inner ear. Diseases of the mastoid region. Labyrinthitis. Diseases of the

lateral ear. Temporal bone fractures. Section 3. The nose and paranasal sinuses: Diseases of the external nose. Chronic forms of rhinitis. Diseases of the nasal septum. Sinus disease. Naso-orbital infections. Section 4. The mouth and pharynx: Infectious and infectious diseases of the mouth. Diseases of the tongue. Acute diseases of the pharynx. Chronic pharyngitis. Neuroses and paralyses of the pharynx. Section 5. The larynx, trachea, bronchi and esophagus: Diseases of the larynx. Obstructive conditions of the larynx. Chronic forms of laryngeal disease. Tumors of the larynx. Surgery of the larynx and trachea. The trachea and bronchi. The esophagus. Section 6. General and correlated considerations: Progress in otolaryngology. Diagnostic and therapeutic facilities. Neurology of the head and neck. Allergy. Diseases of speech and voice. Ophthalmological aspects. Rhinology of the head. Otolologic relations to otolaryngology. Index.

Note. (1304) A comprehensive work suited to the needs of specialists and graduate medical college students preparing for specialization in otolaryngology. Background information such as anatomy and physiology are covered very concisely. Almost all of the space is given to descriptions of diseases and to related matters, such as roentgenography, which are of interest to the specialist. Specific diseases are fully discussed and the text is illustrated by a variety of illustrations of good quality. The length of the work and its scope have been very substantially increased in the present edition in order to maintain its purpose as an encyclopedic treatment. Literature references are not included.

PALMER, EDDY D

The esophagus and its diseases. Illustrations by Phyllis Anderson. New York: Paul B. Hoeber Inc., Medical Book Department of Harper & Brothers, 1932. 333 p. illus. (part col d) 24 cm. \$15.00. 1151

Contents: Anatomy. Clinical physiology. Congenital stenosis and diverticula. Diverticula. Diaphragmatic hernia. Achylia and constrictions. Other mechanical disturbances. Foreign bodies. Ruptures and perforations. Esophagitis. The esophagus in acute infectious diseases. Tuberculosis. Syphilis. Mycosis. Acute peritonitis. Esophagitis due to corrosive agents. Ulcers. Stricture and webs. Benign esophageal tumors. Carcinoma. Benign neoplasms. Tumors and cysts. Sarcoma. Varices and hemorrhages. Alimentary drug damage. The endoparasitoses. Diffuse collagen diseases. Deficiency diseases. Esophageal cancer. Index.

Note. The diseases of the esophagus are covered comprehensively in this work. The chapter lists indicate the wide scope. Diseases and their treatment are discussed fully and many illustrative cases are described. The text is based on a survey of the international literature, including the author's own writings. There are 93 illustrations. The author is Chief of the Gastrointestinal Section of Walter Reed Hospital of the United States Army Medical Center.

PARKINSON ROY HARVEY

Tonsil and allied problems. New York: The Macmillan Company 1951. 432 p. illus. 26 cm. \$12.00. 1152

Contents. The second tonsil and tonsil fossa. Muscles of the pharynx and velopharynx (tonsil). Potential spaces around the tonsil. Tonsillitis, adenoids, lingual tonsil, and other allied lymphoid structures. Cancer of the tonsil. Velar draining the tonsil region. Tonsil surgery of tonsil and allied structures. Lymphatic drainage of the tonsil. Histology of the tonsil and allied structures. Embryology and potential crises of the tonsil. Physiology of the tonsil. Acute inflammatory diseases of the tonsil. Chronic inflammatory diseases of the tonsil. Tumors involving the tonsil and adenoid region. Miscellaneous conditions involving the tonsil. Indications and contraindications for tonsillectomy. Techniques of tonsillectomy. Complications following tonsillectomy. Index.

Note. A comprehensive study of a small part of the body that is responsible, according to one authority for one third of all operations performed on the white population of the United States of America. Currently employed surgical techniques are fully described, but there is no special emphasis on this phase of the subject. Special emphasis is given to diagnosis, and the discussion of the circulatory system, nerve supply, histology, etc., are as full as the subject requires. There are 150 figures and bibliography of 82 references.

VAN ALYEA, OLIVER EDMOND

Nasal sinuses: an anatomic and clinical consideration. Second edition. Baltimore: The Williams & Wilkins Company 1951. 327 p. illus. (part col d) 23 cm. \$9.00. 1153

Contents: Histopathology. Nasal physiology. Acute nasal infection. Maxillary sinus. Frontal sinus. Ethmoidal sinus. Sphenoidal sinus. Sinus disease in children. Allergy. Tumors. Complications. Relation of sinuses to other considerations. General therapeutic measures. Subject index. Author index.

Note. (1315) A detailed treatise of interest to advanced medical students, general practitioners, and specialists in rhinology. It is based both on the author's own studies and clinical observations and on the pertinent literature. In the present edition it has been widely revised. The chapter on allergy is new. Tumors are discussed in greater length and the discussion of therapeutic matters and measures has been revised to include the antibiotics and other important advances. Each of the chapters is now accompanied by revised selected references. There are 143 figures.

WILLIAMS, HENRY L

Ménière's disease. Springfield, Ill. Charles C Thomas, 1952. 349 p. illus. 22 cm. (American lecture series. Publication no. 129) A monograph in The Bannerstone Division of American lectures in otolaryngology audiology and broncho-esophagology, edited by Norton Canfield) \$7.00. 1154

Contents: Ménière's descriptions and some misinterpretations. Anatomy and physiology of the labyrinth. Histopathology and physiological rhinology. Vestibular crisis and loss of hearing. Diagnosis and differential diagnosis. Fundamental identity of allergy and Ménière's disease. Medical treatment. Surgical treatment. Nucleolization and constrictions. Index.

Note: A comprehensive critical monograph on the ear disease named after Prosper Ménière. In the first chapter the author compares Ménière's original papers with the monographs that have given to the disease the prominence it has. The succeeding chapters review the basic anatomy, physiology and pathology of the ear as it pertains to critical review of contemporary diagnosis and treatment, based partly on the literature and partly on his own experience. Fundamental relationships are included in the chapters. The author is Head of the Section on Otolaryngology and Rhinology of the Mayo Clinic.

YEAR BOOK OF THE EYE, NOSE AND THROAT

The 1951 year book of the eye, ear nose and throat (October, 1950-September 1951) The eye edited by Derrick Vall. The ear, nose and throat edited by John R. Lindsay. Chicago: The Year Book Publishers, Inc., 1952. 456 p. illus. 20 cm. \$5.50. 1155

Contents. The eye: The eyelids and lacrimal apparatus. The orbit and extraocular muscles. The conjunctiva. The cornea. The lens and iris. The vitreous body and choroid. The optic nerve. The retina. Neurology and visual fields. Glaucoma. Refraction and surgery. Therapy. Macular degeneration. The ear: Hearing and hearing loss. Vertigo, deafness and Ménière's disease. Tonal function and noise. Otosclerosis and ossification. Miscellaneous. The nose and throat: The nose and sinuses. The pharynx and larynx. Benign and malignant diseases. The larynx and hypopharynx. Tumors. Benign and malignant diseases. Allergy. Miscellaneous. Index. Index to subject.

Note. (1999) An historical annual review of the world wide developments in these specialties. It is similar in scope and organization to the other volumes in the series. The more significant articles which appeared in periodicals throughout the world during the period indicated in the title are represented by brief abstracts of fair length. Some of the abstracts are supplemented by brief editorial notes in which the editor criticizes the findings of the author or criticizes them or other studies in the same area. There are 111 figures in the book.

GASTROINTESTINAL DISEASES

BACON HARRY ELLICOTT

Anus, rectum, sigmoid colon: diagnosis and treatment. Third edition. Philadelphia: J. B. Lippincott Company 1949. 2 vol. illus. (part col d) 26 cm. \$30.00. 1156

Contents (abridged). Volume 1: Anatomic considerations. Examination and diagnosis. Malformations of the anus and rectum—megacolon—ileocecal disease—diverticulosis. There is one. Anorectal

stomach, flaccid. Pruritus ani. Pruritus and sigmoiditis. Diverticulitis and diverticulosis of the sigmoid. Lymphogranuloma venereum. Ventral diverticulum of the stomach. Tuberculosis of the nose, rectum and sigmoid colon. Hemorrhoids. Proctitis and proctocolitis. Volume 2: Malignancy of the nose, rectum, and sigmoid colon. Treatment of malignant tumors. Valvular disease of the sigmoid colon. Foreign bodies in the rectum. Anesthesia and analgesia. Preoperative and postoperative treatment of patients undergoing major surgical procedures. Bibliographic index. Subject index.

Notes (1314) An outstanding work used both as a text for instruction in medical schools and as a reference book by general practitioners and specialists. The latter group of readers will be interested in such portions as the author's evaluation of abdominal-pelvic postoperative proctology without colostomy. Throughout the book the accepted therapy, including both surgical and non-surgical, are described. Also palliative measures are discussed. The illustrations, of which there are well over 1000 in this edition, are an outstanding feature. The significant related literature is carefully cited and the names of the authors of the latest papers have been assembled in the bibliographic index. The second edition was published in 1941. In preparing this very thorough revision many hundreds of pages of text were added and the number of illustrations was greatly increased. The author is Head of the Department of Proctology at Temple University Medical School and Hospital.

BARGEN JACOB ARNOLD

Chronic ulcerative colitis (thrombo-ulcerative colitis) Springfield, Illinois Charles C Thomas 1951 62 p. illus. 22 cm. (American lecture series. Publication no. 101 A monograph in American lectures on abdominal viscera, edited by Lester B Dragstedt.) \$2.25

1157

Contents: Introduction. Pathologic changes. Diagnosis. Complications. Treatment. Summary and conclusions. References.

Notes. In this monograph on "single intestinal disease each phase of the disease form develops through food treatment is carefully explained in terms of the author's general and clinical experience. The chapter on treatment includes medical and surgical therapies and includes three diagrams of skin-grafted ileostomy constructed according to Dragstedt's technique. The author is member of the Mayo Clinic staff.

BENEDICT EDWARD BENBON

Endoscopy as related to diseases of the bronchus, esophagus, stomach, and peritoneal cavity Baltimore The Williams & Wilkins Company 1951 373 p. illus. (part col'd) 24 cm. \$10.00

1158

Contents (abridged): History of endoscopy. Part I. Bronchoscopy: Anatomy and physiology of the tracheobronchial tree. Technic: Indications, contraindications and complications. Bronchial obstruction. Specific infectious diseases. Foreign bodies in the tracheobronchial tree. Bronchogenic carcinoma. Metastatic malignant disease of the bronchus. Tumors of the trachea. Part II. Esophagoscopy: Anatomy and physiology of the esophagus. Technic: Indications, contraindications and complications. Esophagitis. Benign lesions. Esophageal ulcer. Benign strictures. Lye strictures. Web. Achalasia (cardiospasm). Diverticulum. Varices. Benign tumor. Carcinoma. Foreign bodies in the esophagus. Esophageal prosthesis. Tumors. Bronchoesophageal and tracheoesophageal fistula. Specific infectious diseases. Miscellaneous conditions affecting the esophagus. Paralytic dysphagia. Esophageal diverticula of swallowing. Part III. Gastroscopy: Anatomy. Physiology and gastroscopic appearance of normal stomach. Technic. Indications, contraindications and complications. Gastritis. Gastric ulcer. Benign tumor. Carcinoma. Other important tumors involving the stomach. Specific infectious diseases. Miscellaneous conditions affecting the stomach. Part IV. Peritoneoscopy: History. Technic and indications. Evaluation of the method and analysis of results. Endoscopic photography. Index.

Notes: The fitting of endoscopic technique into the whole picture of diagnosis and treatment is an outstanding feature of the method. The chapter on bronchoscopy contains—in table as well as in text—organized under the following headings: definition, anatomy, etiology, pathology, symptomatology, diagnosis, differential diagnosis, bronchoscopy, bronchoscopy determination of operability, supplementary laboratory cytologic study, treatment, prognosis, and literature references. Endoscopic techniques are correlated with other diagnostic techniques, especially radiography. Discussions of new studies are included in most of the chapters. There are 118 illus.

trations in color and 117 in black and white. The author is Endoscopist of the Massachusetts General Hospital and member of the Society of Harvard Medical School.

CANTOR ALFRED JOSEPH

Ambulatory proctology With a foreword by Beaumont S. Cornell. Second edition, revised. With 382 illustrations. New York Paul B Hoeber Inc., 1952 563 p. illus. 24 cm. \$10.00.

1159

Contents: Clinical anatomy. Diagnosis. Anesthesia, analgesia, hemostatic agents. Preoperative and postoperative management. Sedation and antibiotic therapy. Surgery by electric cauter and thermal cutting unit. Pediatric proctology. Fractures and cystitis and proctitis. Anorectal fistula. Perianal and perirectal abscesses and infections. Anal strict. Hemorrhoids. Proctitis and proctocolitis. Divertion—Surgical methods and general therapy. Extracutaneous and cutaneous. Divertive colitis. Rectal dysplasia. Tuberculosis. Lymphogranuloma venereum. Venereal diseases. Intestinal parasites. Constipation. Malabsorption. Diverticulosis and diverticulitis. Benign tumors. Multiple adenomas. Malignant neoplasms. Fibroid tumors, ulcers, cysts, and abscess. Carcinoma. Rectal stricture and anal stenosis. Anal incontinence. Foreign bodies and rectal trauma. Index.

Notes (1008) By "ambulatory proctology" the author designates the diagnosis and treatment of diseases of the nose, rectum, and sigmoid based by techniques which do not confine the patient to bed. The text is divided about equally between conditions which can be treated by surgical methods in the doctor's office and conditions which can be treated medically. Also there is considerable material on conditions which can be diagnosed in the office, but require hospitalization for treatment. The book is addressed particularly to general practitioners of medicine. Two new chapters and other important additions have been made in this edition. Also recent literature has been added to the bibliography and there are many new illustrations.

CANTOR MEYER O

Intestinal Intubation Springfield, Illinois Charles C Thomas, 1949 333 p. illus. 24 cm. \$7.50

1160

Contents: Introduction. The history of the invention and development of the gastro-intestinal tube. Medical anatomy of the gastro-intestinal tract as related to intubation. Intestinal physiology as related to intestinal intubation. Disturbances in the gastro-intestinal tract. Intestinal decompression tubes in use today. Technic of intestinal intubation. Role of surgery in intestinal decompression tubes. Disorders of the small bowel requiring intubation. Intestinal intubation in lesions of the colon. X-rays and intubation in the use of intestinal decompression tubes. Nursing care of patient with intestinal intubation. Types of lesions and methods of use. Responsibility of the surgeon in the use of intestinal intubation. The role of the roentgenologist in patients to be intubated. Intubation in infancy and childhood. Effect of intestinal gases upon indicators of intestinal decompression tubes. By K. R. Phelps and others. Effect of hydrogen sulfide gas upon the balloons of intestinal decompression tubes. Extensive bibliography. Author index. Subject index.

Notes. A comprehensive transmission of "new techniques in the treatment of intestinal disorders," written by the inventor of the Cantor tube. Most of the space is devoted to medical particulars in the use of gastro-intestinal tubes, but the history and other background aspects are also fully covered. There are 17 illustrations and extensive bibliography. The book is of interest to student as well as to surgeons, roentgenologists, and specialists in gastroenterology.

CHENNEY GARNETT

Medical management of gastrointestinal disorders. Chicago The Year Book Publishers, Inc., 1950. 478 p. illus. 21 cm. \$7.00.

1161

Contents (abridged): Part I. The patient approach: Knowledge of the patient. Clinical history procedures. Endoscopic and biopsy examinations. X-ray examinations. Part II. Symptoms, diagnosis and treatment. Stomach and tongue. Loss of appetite. Dysphagia and esophageal disease. Indigestion, belching of gas and heartburn. Nausea and vomiting. Hematemesis. Management of the gastric ulcer problem. Severe abdominal pain and cramps. Management of liver disease. Management of gallbladder and bile duct disease. Lower abdominal disease and movement. Abdominal distention. Abdominal tumors.

DUNCAN, GARFIELD GEORGE

Diabetes mellitus principles and treatment. Philadelphia W B Saunders Company 1951 289 p. illus. 24 cm. \$6.25 1176

Contents: Introduction—definition of diabetes. Progress in the understanding of diabetes. History of diabetes. Incidence of diabetes. Etiology of diabetes. Prognosis. Insulin. Carbohydrate metabolism and the blood sugar. Disturbed physiology in diabetes. Pathology of diabetes. The urine and blood in diabetes. Symptomatology physical signs and diagnosis of diabetes. Food requirements. Treatment. Insulin therapy. Complications of diabetes. Acute complications of diabetes. Diabetes control. Pregnancy complicating diabetes. The diabetic child. Appendix. Index.

Note: A manual of practical treatment devoted mainly to those aspects of diabetes mellitus which are of concern to the general practitioner. Data, insulin therapy, complications, etc., are given relatively more space than pathology, for instance. A considerable range of useful reference data are presented in tables. Literature references are few. The author is Clinical Professor of Medicine in Jefferson Medical College.

DUNCAN GARFIELD GEORGE, editor

Diseases of metabolism detailed methods of diagnosis and treatment. With contributions by Walter Bauer and others. Third edition, illustrated. Philadelphia W B Saunders Company 1952 1179 p. illus. 25 cm. \$15.00. 1177

Contents: Introductory considerations, by G. G. Duncan. Carbohydrate metabolism, by E. Smith and E. Levine. Protein metabolism, by A. Wicks. Lipid metabolism, by A. White. Mineral metabolism, by A. Cantow. Water balance in health and disease, by J. P. Fother. Vitamins and antioxidants, by T. D. Ayle and H. R. Smith. Undernutrition, by A. Kays. Obesity, by F. A. Taves. Xanthinemia—physiology, causes and disturbances of intermediary metabolism, by R. Martin. Gout, by W. Karm and J. Knepper. Symptomatic hypoglycemia, by G. G. Duncan. Diabetes insipidus, by G. G. Duncan. Melanin, by A. Cantow. Diabetes mellitus, by G. G. Duncan. Diabetes in childhood, by F. Wicks. Diseases of the thyroid, by R. W. Lawrence and J. E. Rall. Diseases of the kidney, by M. Miller and J. M. Hayman. J. Paraphary metabolism, by C. J. Watson. Appendix, by G. G. Duncan. Author index. Subject index.

Note: (1017*) A comprehensive review made up of chapters written by eminent authorities in this field. It is intended to provide graduate physicians with a basis for the understanding, diagnosis, and treatment of diabetes. Each chapter is supplemented by selected though rather extensive bibliography of the international literature. In comparison to the preceding edition, published in 1947 this edition adds considerably new material and organization. The chapter on parathyroid metabolism is now several chapters have been thoroughly rewritten and expanded; others have been condensed. The bibliography has been completely overhauled.

FARQUHARSON, RAY FLETCHER

Simmonds' disease extreme insufficiency of the adenohypophysis. Springfield Illinois Charles C Thomas, 1950 93 p. illus. 22 cm. (American lecture series. Publication no 34. A monograph in American lectures in endocrinology edited by Willard O Thompson) \$2.00 1178

Contents: Initial recognition. Pathogenesis and pathology. The clinical picture. Summary and conclusion. Bibliography. Index.

Note: A presentation of "the pathological and clinical picture of the syndrome of extreme insufficiency of the adenohypophysis." It is based on reports of cases in the published literature which include adequate descriptions of the clinical and pathological features including the findings in autopsies.

GREENBLATT ROBERT BENJAMIN

Office endocrinology Fourth edition. With a foreword by G Lombard Kelly Springfield, Illinois Charles C Thomas, 1952 561 p. illus. (part col'd) 24 cm. \$10.50 1179

Contents (abridged): Section one, General endocrinology: Part 1, The pituitary Part 2, The thyroid and parathyroids. Part 3, The adrenal. Part 4, Miscellaneous endocrine disorders. Section two, Disorders of metabolism: Part 1, Disorders of metabolism. Part 2, Metabolism and related disorders. Part 3, Disorders in the endocrine system. Part 4, Miscellaneous—Nutrition and resulting of endocrine origin. Disorders of metabolism due to endocrine imbalance. Section three, Pharmacology: Chemistry of steroid hormones. Estrogens. Androgens. Adrenal cortical hormones. Pituitary preparation. Section four, Diagnostic procedures: The vaginal smear. The correlation of basal temperature and ovulation activity. Laboratory procedures. Tests for pregnancy and their practical application. Section five, Male endocrinology: Hypogonadism. Male sterility and impotence. Testicular biopsy by W. G. Nelson. Estrogen therapy in the male. Index.

Note: (1031) A standard treatment which is primarily designed for office use by physicians who are not specialists in endocrinology but who do require in their regular practice knowledge of the manifestations of endocrinological malfunctions. Each of the 46 chapters is concise discussion of specific disorder or of diagnostic or therapeutic technique. Diagnostic techniques and therapeutic which are available to the general physician who must work with limited laboratory facilities are described explicitly. Literature references are included, some of which are to articles on more specialized techniques. In the present edition approximately one-third of the chapters are new and other chapters which have been carried over have been extensively rewritten. There are many new illustrations and the literature references have been extended.

JOSLIN ELLIOTT PROCTOR, AND OTHERS

The treatment of diabetes mellitus, by Elliott P Joslin Howard F Root, Priscilla White and Alexander Marble. Ninth edition, thoroughly revised, illustrated. Philadelphia Lea & Febiger 1952 771 p. illus. (part col'd) 24 cm. \$12.00 1180

Contents: Present concepts of diabetes, by E. F. Joslin. The incidence of diabetes, by E. F. Joslin. The etiology and prevention of diabetes, by E. F. Joslin and P. White. The physiology of diabetes, by A. Marble. The pathology of diabetes, by S. Warren and P. M. LeCompte. Examination of urine and blood in diabetes, by A. Marble. The diet in health and diabetes, by E. F. Joslin. Definition, diagnosis, classification, symptomatology and prognosis of diabetes, by E. F. Joslin. The treatment of diabetes, by E. F. Joslin. Hypoglycemia due to insulin, by A. Marble. Hypertension, by A. Marble. Diabetic coma, by H. F. Root. Allergy and diabetes, by A. Marble. Cardiovascular-cerebral disease, by H. F. Root. Infection by diabetes, by A. Marble. The operative review, by A. Marble. The nervous system and diabetes, by H. F. Root and A. J. Kossy. The gastro-intestinal system in diabetes, by C. Ryman. Disorders of the skin in diabetes, by A. Marble. Blood complications in diabetes, by H. F. Root and R. D. Story. The eyes and diabetes, by H. F. Root. Tuberculosis, by H. F. Root and R. Deckert. Cancer complicating diabetes, by A. Marble. Surgery and diabetes, by H. F. Root. Clinical disorders of the glands of internal secretion complicating diabetes, by H. F. Root. Diabetic children and their later lives, by P. White. Pregnancy complicating diabetes, by P. White. Menstrual disorders, by A. Marble. Index.

Note: (1018*) A comprehensive monograph based on the authors' experience of some 40,000 patients. It is widely used as a guide and reference book both by general practitioners of medicine and by specialists. The primary emphasis is on the treatment, but the table of contents shows other aspects of this disease are covered also. The first chapter is of special public health interest because it outlines the facts on the incidence, mortality rates, and related public health aspects of diabetes. The eighth edition was published in 1944. The third edition represents thorough revision. Though shorter than the preceding edition, much new material has been added in the text and many new bibliography references appear in the footnotes. Included under the appendix material is a new method of calculating diabetic diets.

LICHTMAN SOLOMON SYDNEY

Diseases of the liver gallbladder and bile ducts. Second edition, thoroughly revised, with 147 illustrations and two color plates. Philadelphia Lea & Febiger 1949 1135 p. illus. (part col'd) 24 cm. 1181

Contents: Part 1, Diseases of the Liver: The structure of the liver. Physiology of the liver. The pathogenesis and pathology of jaundice. The symptoms and signs of liver disease. Liver function tests and

hormonally active tissues of the testis, by G. H. Trenchly. The treatment of cryptorchidism, by M. M. Steiner. III. Special aspects of sex endocrinology: The influence of the liver on sex endocrine functions, by R. J. Glan. Methods for classic administration of steroid hormones, by A. Segal. IV. Arterial physiology: The nutritional and endocrine control of growth in children, by H. H. Knauth. Arteriosclerosis, by E. W. Thompson. V. Prostatic physiology: Principles of the posterior lobe of the pituitary body, by H. R. van Dyke. Diabetes mellitus and its differential diagnosis, by R. C. de Bode and L. H. Elzer. VII. Use of hormones in menopause and conditions: Hormonal therapy of carcinoma of the prostate, by R. H. Flück. Experimental use of testosterone compounds in premature infants, by E. K. Eklund and others. The role of hormones in the pathogenesis and treatment of goiter, by W. G. Wallen. VIII. General endocrine topics: Influence of the endocrines on the placenta in health and disease, by J. P. Williams. The relationship of the endocrine glands to obesity, by E. Strome and G. D. Strome. Index.

Note: The first volume published in series that is planned to present periodically summary of current knowledge and recent developments. The volume at hand contains 79 papers. The typical paper is an eight page digest of published literature and is accompanied by bibliography. The papers are addressed to graduate physicians and to specialists in other fields who are familiar with the terminology of clinical medicine and endocrinology.

THANNHAUSER, SIEGFRIED J

Lipidoses, diseases of the cellular lipid metabolism. Edited by Henry A. Christian. (Reprinted from Oxford loose-leaf medicine with the same page numbers as in that work) Second edition. New York: Oxford University Press, 1950. 595 p. illus. (part col d) 24 cm. \$12.00 1186

Contents (abridged): Part I. The physiology and chemistry of lipid metabolism. Part II. Hypercholesterolemia. Part III. Xanthomatosis. Hypercholesterolemia. Hypercholesterolemia (accumulation of cholesterol in the serum) with primary hypercholesterolemia. Xanthomatosis. Part IV. Gaucher's disease (gangliosidosis and sialidosis). Part V. Niemann-Pick's disease (sphingolipidosis and sphingomyelinosis). Supplement: Lysosomal storage. Index. Part VI. Gaucher's disease (gangliosidosis). Index.

Note: A comprehensive survey of the storage of diseases aimed at the post-graduate. The first chapter is an outline with key-words and references in the literature of the knowledge of the biochemistry of lipid metabolism. Comprehensive lists of biochemical literature pertaining to each group of diseases are given. There are 124 figures. The first edition was published in 1949. Medicinally extensive references are evident in several parts of this edition.

THOMAS LEWIS editor

Rheumatic fever. A symposium held at the University of Minnesota on November 29-30 and December 1, 1951 under the sponsorship of the Minnesota Heart Association. Minneapolis: University of Minnesota Press, 1952. 349 p. illus. 24 cm. \$10.00 1187

Contents: The natural history of rheumatic fever, by T. D. Jones and E. F. Bland. The epidemiology of rheumatic fever, by F. F. Schreiner. The pathophysiology of rheumatic fever—a critical review, by G. E. Murphy. Inflammatory complications of congested heart failure, by T. J. Dry and D. C. Caspary. The history of acute A. hemolytic streptococci, by M. McCarty. Strains on the etiology of rheumatic fever in the acute serum, by C. H. Rosenblatt and others. Infection and reaction by hemolytic streptococci in early childhood, by L. A. Rosta and others. Non-rheumatic myocarditis, by H. L. Hinkle. Acute-phase reactions in rheumatic fever, by R. A. Good. The immune response in rheumatic fever, by M. McCarty. Attempts to induce rheumatic fever in experimental animals—a critical review with particular reference to the Ansell index in the myocardium, by G. E. Murphy. Experimental bacterial endocarditis and glomerulonephritis—a description of method of production utilizing streptococcal strains, and summary of the results of antibiotic therapy, by C. W. Lohr and others. Tissue factors in streptococcal infections, by D. W. Winton and W. J. Coombs. The biochemistry of connective tissue and rheumatic fever, by A. Derflinger. The penetration of antigen into connective tissue, by A. H. Coates. The pathogenesis of the Rheumatism and Arthritis phenomena and their relation to known rheumatic fever, by C. A. Rostom, Jr. The generalized streptococcal reaction in experimental streptococcal infection, by L. Thomas. The surgical

problem in rheumatic valvular heart disease, by R. L. Vane and J. D. Rosenblatt. Subacute bacterial endocarditis, by W. K. Hirsch and F. L. Hoffman. Acute rheumatic fever treated with cortisone and corticotropin, by A. R. Barnes and others. Therapy of rheumatic fever—a discussion, by A. O. Kettner. The prevention of rheumatic fever, by C. H. Rosenblatt and others. The management of rheumatic fever, by M. J. Shapiro. Bibliography.

Note: Many of the papers collected in this volume describe recent advances in the understanding and therapy of rheumatic fever. Including the results of studies carried out by the United States Armed Forces. Several of the papers are accompanied by transcripts of the discussion which took place at the symposium. Some include extensive bibliographies.

UNITED STATES ARMY ARMY MEDICAL LIBRARY

The pituitary-adrenocortical function. ACTH, cortisone and related compounds. A bibliography compiled by Karl A. Baer and Marjory Spencer with the assistance of Pauline Tureman and Stanley Jablonski. Washington D. C. Army Medical Library 1950. 366 p. 26 cm. Paper. Sent free to libraries and institutions. 1188

Note: A bibliography consisting of 2447 references in the laboratory literature. The arrangement is alphabetical by disease and other biochemical and medical aspects. Examples of subject groups are Addison's disease, "pituitary," "blood-chemistry" and "metabolism." An author index is included.

WARREN SHIELDS AND PHILIP M LeCOMPT

The pathology of diabetes mellitus. Third edition thoroughly revised. 112 illustrations and 3 colored plates. Philadelphia: Lea & Febiger 1952. 336 p. illus. (part col d) 24 cm. \$7.50. 1189

Contents (abridged): Diabetes mellitus and the pancreas. Lesions of the pancreas in metabolic diseases. Pathological evidence of abnormal carbohydrate metabolism. Pathological evidence of abnormal fat metabolism. The pathology of diabetes and coma. Diabetes and infection. Vascular disease in diabetes. Osteoporosis. The heart. The kidney. The eye. The nervous system. The pituitary. The adrenal glands. Other endocrine glands. The pathology of diabetes in children. Hypercholesterolemia. The pathology of insulin-resistant cases. Hypercholesterolemia and the pathological effects of insulin. Lesions of diabetic nephropathy. Cancer and diabetes. Experimental diabetes. The etiology and pathogenesis of diabetes. A summary of the concept of the pathology of diabetes. Appendix. Index.

Note: The current knowledge of the pathology of diabetes mellitus is presented in a comprehensive and concise manner. The historical development of the broader hypothesis of the etiology of the disease is outlined in the seven pages of the first chapter but the outline is supplemented by 10 literature references. This combination of brief text supplemented by large number of literature citations is typical. There is considerable emphasis on the experimental and clinical evidence which underlies the current knowledge. Controversial issues and aspects which require further investigation are discussed. The second edition was published in 1938 and ran to 244 pages. Much material was added and/or deletions of numerous topics were revised in preparing this edition. Recent literature was added to the bibliography.

WILLIAMS ROBERT HARDIN editor

Textbook of endocrinology. Philadelphia: W. B. Saunders Company 1950. 793 p. illus. (partly col d) 24 cm. \$11.00 1190

Contents: General principles of endocrinology, by R. H. Williams. Physiology, by R. H. Williams. Thyroid, by R. H. Williams. The adrenal cortex, by R. H. Williams. Adrenal cortical hyperfunction, by R. J. Kiper and W. Leck. Part II. Adrenal cortical insufficiency, by G. W. Thorn and F. H. Parham. The testes, by J. K. Howard and W. W. Scott. The ovaries, by G. V. R. Smith. The pancreas and diabetes mellitus, by G. W. Thorn and F. H. Parham. Diseases of the parathyroid glands, by R. C. Rasmussen. The influence of endocrine glands upon growth and development, by L. Williams. Neuroendocrine

and psychodynamic aspects of the endocrinopathies, by H. B. Friedland. Obesity by L. H. Kretzberg. Laboratory diagnostic and assay procedures, by R. H. Williams. Index.

Note. Each of the chapters in this book is in effect a condensed monograph of the specific facet of endocrinology that is treated in its title. Background information in anatomy, physiology and chemistry is always included, but the emphasis is on the clinical aspects, particularly diagnosis, treatment, and prognosis. Some of the authors have included very specific information such as dosages and sample diets. In addition to its use as a textbook, the book is suitable one for the office libraries of general practitioners.

YEAR BOOK OF ENDOCRINOLOGY

The 1951 year book of endocrinology (January 1951-January 1952) Edited by Gilbert S. Gordan. Chicago: The Year Book Publishers Inc., 1952. 415 p. illus. 20 cm. \$5.50 1191

Contents: Introduction. The pituitary gland. The thyroid gland and metabolism. The parathyroids, calcium metabolism and metabolic bone diseases. The adrenal medulla. The adrenal cortex. Cortisone, corticosteroids and allied compounds. Steroid precursors. Female reproductive system. The testes. Diabetes mellitus and carbohydrate metabolism. Endocrine treatment of neoplastic diseases. Miscellaneous. Index. Index to authors.

Note. (1951?) As in other volumes of this important series the significant literature published throughout the world during the period noted in this is presented in the form of abstracts. In many instances the abstract is supplemented by a note written by the editor in which the criticisms of the author are criticized or recommended. In some cases also, notes of the chapters or sections are included with critical review of current developments written by the editor. As might be expected, the section on cortisone and allied compounds is one of the longer ones in the book.

NEUROLOGY

ALVAREZ WALTER CLEMENT

The neuroses diagnosis and management of functional disorders and minor psychoses. Philadelphia: W. B. Saunders Company, 1951. 667 p. 24 cm. \$10.00 1192

Contents (abridged): Part I. Diagnosis: Hints for recognizing in medical the neurotic patient, or the one whose troubles are likely to be functional. Hints for the taking of history. The order by in not induction of tests. Part II. Cases of neuroses and psychoses: Common classes of neuroses and minor psychoses. Nervous syndromes due to physiologic rather than psychic storms. A part between heredity the cause of neuroses. Marriage as a cause of neuroses. Appendix. Bibliography. Index.

Note: This book is both manual and informal. Written by an eminent specialist in internal medicine, it presents neuroses from the viewpoint of the physician who first sees the ill or complaining patient in the clinic. The importance of patients and care in the taking of histories is stressed. The author's viewpoint on treatment is one of "concise advice" instead of professional psychiatry. However, he does include advice on the referring of patients to specialists in psychiatry. Many case studies and summaries of case histories from the author's busy practice are included. Also material has been taken from the literature, and the bibliography is substantial one.

ASSOCIATION FOR RESEARCH IN NERVOUS AND MENTAL DISEASES

Multiple sclerosis and the demyelinating diseases. Proceedings of the association December 10 and 11 1948. New York. With 153 illustrations and 124 tables. Baltimore: The Williams & Wilkins Company 1950. 675 p. illus. 23 cm. (Association for Research in Nervous and Mental Diseases Research publications. Volume xxviii. Editorial board: Henry W. Woltman and others) \$12.00 1193

Contents: Part I. Multiple sclerosis—historical retrospect, by W. Thomas. Part II. Etiology of multiple sclerosis: The geographic distribution of multiple sclerosis and its estimated prevalence in the United States, by C. C. Lieberg. Multiple sclerosis in rural community, by A. E. Maclean. The social significance of multiple sclerosis, by L. C. Kohn. Part III. Etiology of the demyelinating diseases: Critique of theories concerning the etiology of multiple sclerosis, by H. H. Brown. Demyelination resulting from unknown factors, by R. A. Baker. Demyelinating diseases of animals, by J. E. M. Jones. Experimental production of encephalomyelitis in guinea pigs, by R. C. Alvord, Jr. and L. D. Rowles. Experimental studies on acute disseminated encephalomyelitis in guinea pigs, by R. A. Baker and others. The effect of starvation on the myelin sheath of the peripheral nerves of rats, by R. L. Frank and G. A. Berry. Encephalitis in relation to attacks of multiple sclerosis, by L. M. Beckner and D. J. Simons. The histological occurrence of multiple sclerosis and its implications, by R. F. Mackay. Blood and plasma transference in multiple sclerosis, by L. Alexander and others. Part IV. Blood flow in multiple sclerosis: Cerebral blood flow in multiple sclerosis, by W. M. Tucker and others. The significance of postural vascular changes in multiple sclerosis, by G. O. Grahn and W. E. Johnson. The significance of localized vasculopathies in multiple sclerosis, by R. M. Richman. Part V. Anatomy and chemical aspects of the myelin sheath. The ultrastructure of the myelin sheath, by P. O. Schmitt. The chemistry of myelination and demyelination, by W. M. Sperry and H. Weisbach. Part VI. Pathologic aspects of the demyelinating diseases. Pathology of multiple sclerosis, by R. M. Zimmerman and M. Natus. Definite sclerosis and other unusual demyelinating processes, by C. Dawson. The pathology and pathogenesis of encephalomyelitis associated with vaccination and the encephalitis, by K. H. Finley. The naturally occurring demyelinating diseases of animals, by L. S. King and M. C. Maclean. Part VII. Symptoms and signs, clinical course and diagnosis of multiple sclerosis. Retrospective review in multiple sclerosis, by F. J. Landau. Description of the natural course in multiple sclerosis, by C. W. Barker. The scalar findings in multiple sclerosis, by M. Schwartz and L. Ransell. The syndrome of the myelin sheath (leukoencephalopathy), by M. B. Bender and E. A. Weinstein. The electroencephalogram in multiple sclerosis, by H. Jasper and others. The conventional test in multiple sclerosis, by D. A. Freedman and H. H. Martin. Cerebral field stimulation in diagnosis of multiple sclerosis, with emphasis on the quantitative field reaction, by T. J. C. van Borch. The effects of the mental changes associated with multiple sclerosis, by F. J. Bruns and M. E. Cline. Some psychodynamic factors in multiple sclerosis, by R. E. Ochsner and others. The results of the psychometric and personality tests in multiple sclerosis, by M. H. Pomeroy. The course of multiple sclerosis as determined by sensory power, by S. Carter and others. Multiple sclerosis—prognosis in ambulatory and nonambulatory patients, by J. A. Luciani. The diagnosis of multiple sclerosis, by F. Kennedy. The effect of infection and stress on the course of multiple sclerosis, by M. Kuchner. The effect of pregnancy on multiple sclerosis and its sequelae, by A. J. S. Thomas. Part VIII. Current treatment of multiple sclerosis: The treatment of multiple sclerosis, by T. J. Pomeroy. The problems of rehabilitation in multiple sclerosis, by H. A. Roth. A survey of the maladjustment problems in multiple sclerosis and the possibilities of psychotherapy, by G. E. Lempert. Conclusions. Bibliography. Index. List of members.

Note: A collection of original papers prepared for the session mentioned in the book's title. A very wide range of subjects is included. Many of the chapters are accompanied by concepts of the discussions at the meeting and by lists of references.

BENDER, MORRIS B

Disorders in perception, with particular reference to the phenomena of extinction and displacement. Springfield, Illinois: Charles C. Thomas, 1952. 109 p. illus. 22 cm. (American lecture series. Publication number 120 A. monograph in American lectures in neurology) \$3.00. 1194

Contents: Introduction. Modes of stimulation and the phenomenon of extinction. Sensory phenomena obtained on simultaneous stimulation in the normal. Reflection phenomena in extinction. Spatial displacement in extinction. Extinction and the phenomenon of sensory displacement. Theories on extinction. Summary. Bibliography. Index.

Note. The results of a series of studies made by the author and his collaborators between 1941 and 1950 at the Laboratory of Psychophysiology in San Diego, California, and in the Laboratory of Psychophysiology of New York University-Bellevue Medical Center. Among the author's findings are (1) double simultaneous stimulation (2) spatial reversal sensory changes not revealed by single stimulation, (3) spatial changes as well as central disorders may produce extinction of perception, (4) there is well-defined spatial pattern among the

areas with yield reductions, dominance, or displacement, and (4) reduction of invasion by server as isolated disorder.

BROCK, SAMUEL, editor

Injuries of the brain and spinal cord and their coverings neuro-psychiatric, surgical, and medico-legal aspects. Contributors Bernard J Alpers (and others) Third edition. Baltimore The Williams & Wilkins Company 1949 783 p. illus. 24 cm. \$10 00 1195

Contents. General considerations in injuries of the brain and spinal cord and their coverings, by A. Brock. General pathological considerations in brain injury, by G. B. Harris. Fractures of the skull and consequences of the cranial bones in injuries of the brain and spinal cord, by J. Murray. Spinal haematomas of the dura mater, by J. Murray. Spinal haematomas and contusion of the brain and their sequelae, by Sir C. Symonds. Injury to cranial nerves and optic chiasm, by W. R. Russell. Massive intracranial haemorrhages of traumatic origin, by E. D. Friedlander. Extracranial haematomas, subdural haematomas, subdural hygromas, cephalohematomas, by M. M. Post. Post-traumatic brain abscess—post-traumatic meningitis, by F. C. Grant. Contusion wounds of the brain and their consequences—foreign bodies—cranial defects—traumatic encephalopathy and rheumatism and spontaneous pneumocephaly, by L. M. Daville and E. H. Pecking. Cerebral birth injuries, by R. J. Alpert. The post-traumatic convulsive and atonic states, by A. R. Klavins. Menstrues following head and brain injuries, by P. Schöber. Menstrues following head and brain injuries, by A. R. Oetiker and J. Weisberg. Psychotic states following head and brain injury in adults and children, by K. M. Bennett and A. Rice. Amnesia (malpractice) in relation to injuries of the brain and spinal cord and their coverings, by M. Knecher. The relationship of brain injury to other organic diseases of the heart, by L. R. Wechsler. The neuroanatomical aspects of fractures of the skull and injuries of the brain, by C. G. Drake. General pathological considerations in injuries of the spinal cord, by C. Denison. Birth injuries of the spinal cord, by R. Cornhill. Injuries of the vertebral column and spinal cord, by J. R. Scott. Excitation and protrusion of intervertebral disc hernia, by F. A. Harland. The relation of spinal cord injuries to other diseases of the spinal cord, by T. H. Gage. The effects of electric shock on the nervous system, by D. H. Spiller. Contusion of the brain (closed wounds) caused by lightning, electrical air switches, by C. C. Haines. The medicolegal aspects of injuries of the brain and spinal cord and their coverings, by M. Knecher. The pneumocephalogram in cases of head injury, by F. F. A. Hoar. Inc.

Notes (1944) A 200-page booklet composed of a series of newspaper articles by outstanding newspaper and psychologists. Although it is of interest to specialists such as newspaper and newspapermen, serves also as a source of information for general practitioners of medicine and for insurance company personnel, consultants, etc., who are concerned with injuries of the chest from the legal and compensation angle. In the present edition, nine chapters have been carried over unchanged from the second edition. Most of the other chapters have been extensively revised, and two of them are new additions.

COHEN ROBERT

Clinical electroencephalography	New
York McGraw-Hill Book Company	Inc.,
1949 639 p. illus. 23 cm.	\$16.00
	1196

Comments: General considerations. Within the range of normal variation. Intracranial space taking lesion. Cerebral vascular lesions. Arterial hypertension. Cephalopalgias. Head injury—recent—old. Epilepsy—petit mal—grand mal and epileptic equivalents. Migraine. Hemiparesis. Normal sleep and disorders of sleep (narcolepsy). Alcoholism. Some important clinical electric deviations. Disorders of behavior. Examined at various times. See.

From: Keesomally, this work is a compilation of 273 electroencephalograms in which the findings similar to those reported by some of the pages of background information on focus were phenomenon and the electroencephalograph. The electroencephalograms are classified into the headings given in the above table of contents and each one is accompanied by a specific discussion of the case, the diagnosis, and the features of the EEG. The author is Electroencephalographer and Director of Neurological Research in the U. S. Naval Hospital, Bethesda, Maryland, and the book is based on recordings made over a 2-year period at this hospital.

COUEVILLE CYRIL BRIAN

Pathology of the central nervous system,
a study based upon a survey of lesions found

in a series of forty thousand autopsies. Third edition, Mountain View California Pacific Press Publishing Association, 1950 473 p. illus. 26 cm. 1197

Content: Introduction—a survey of histologic alterations occurring in the nervous elements. Chemical, malformative and anomalies of the central nervous system. Diseases of the intracranial and intraspinal blood vessels. Infectious diseases of the central nervous system. Traumatic diseases. Etiology and transmission of the central nervous system. Intoxications and deficiency diseases. Diseases of peripheral nerves. Degenerative diseases, atrophies. Tumors of the intracranial and intraspinal spaces. Appendix—Index.

Notes: (1014) A medical college textbook based on an extensive review of literature. The text does not attempt to synthesize all the psychological aspects of the central nervous system, but the review of *Manuscript* covered in wide area. Common diseases of the brain and spinal cord are all described with special emphasis on the clinical aspects. Although not lavishly illustrated, the present edition contains more than 200 figures, considerable number of which are reproductions of photographs of pathological specimens. The second edition was published in 1943. Although the third edition does not represent an extensive revision as did the second edition, useful material has been added on many topics and some sections have been rewritten in order to simplify them. Literature references have been

DAVIDOFF LEO MAX, AND CORNELIUS G
DYKE

The normal encephalogram. Third edition thoroughly revised by Leo M. Davidoff 190 illustrations on 156 figures. Philadelphia. Lea & Febiger 1951 240 p. illus. 24 cm. \$6 00. 1193

Contents: General considerations. The ventricles, interventricular foramina, and aqueduct of Sylvius. The cerebral convolutions and sulci. The subarachnoid chambers and their contents. Intracranial structures and their related field sources. Bibliography. Index.

Note: (1037*) In this book the fundamentals of micropaleontology as used in the diagnosis of diseases within the International Society are presented for bacteriologists, parasitologists, pathologists, internists, and general practitioners. The text is based on the author's experience with several thousand cases and on a review of the International literature. The third edition now set aside from the second edition published in 1944. Minor changes have been made in a few sections and some corrections were made. About 15 papers published since 1945 have been added to the bibliography.

DAVIDOFF LEO MAX, AND BERNARD S
ERSTEIN

The abnormal pneumoencephalogram. 695 illustrations on 289 figures. Philadelphia Lea & Febiger 1950 506 p illus. 27 cm. \$15 00
1189

Contents (abridged) Part I. Tumors of the brain. Section 1. Meningeal. Frontal lobe tumors. Parietal lobe tumors. Occipital lobe tumors. Temporal lobe tumors. Parasagittal tumors. Meningeal tumors of the olfactory groove, tuberculum sellae, sphenoid wing, sphenoid sinus, sphenoid. Tumors of the optic nerve and chiasm. Pituitary adenoma. Craniopharyngioma. Tumors of the basal ganglia and thalamus. Pineal tumors. Lateral ventricle tumors. Tumors of the posterior and pons. Tumors of the posterior cranial fossa. Section 2. Intracerebral tumors. Cerebral subdural hematoma. Brain abscess. Vascular malformations of the brain. Cerebral hemorrhages and thromboses. Part II. Neurotrophic lesions of the brain. Lesions of the cerebral cortex. Lesions of the subcortical structures. Lesions of the cerebellum. Lesions of the brainstem. Lesions of the spinal cord. Lesions of the peripheral nervous system. Lesions of the autonomic nervous system. Lesions of the sensory system. Lesions of the motor system. Lesions of the language system. Lesions of the memory system. Lesions of the personality system. Lesions of the intelligence system. Lesions of the consciousness system. Lesions of the sleep system. Lesions of the dreaming system. Lesions of the hallucination system. Lesions of the delusion system. Lesions of the obsession system. Lesions of the compulsion system. Lesions of the phobia system. Lesions of the anxiety system. Lesions of the depression system. Lesions of the mania system. Lesions of the psychosis system. Lesions of the dementia system. Lesions of the delirium system. Lesions of the coma system. Lesions of the death system.

Notes: (1972) This work is complementary to L. M. Davidson and C. G. Dykx, The normal encephalogram, and will be described above. It is comprehensive treatment of the role of psychoneurophysiology in diagnosing disorders, written for all who are professionally concerned with neurological diagnosis, but especially particularly to radiologists. The emphasis is on interpretation of psychoneurophysiological data and the relevant pathology is well covered. Clinical syndromes are lucidly described; illustrative case reports are included and supported by many illustrations, most of these psychoneurophysiological. The bibliography is extensive.

Unit. Evolution of psychosurgery technique, by D. Fekken. Technique and complications of the standard prefrontal lobectomy, by J. L. Pappas. Postoperative behavior, by A. S. Ross. Nervous procedures and problems, by R. Roskoff. One to four year follow up of 205 cases of bilateral prefrontal lobectomy, by R. Arnet and others. The immediate patient during the first year at home (social problems in 35 cases), by M. Bradman. Social behavior after lobectomy, by J. Levine and H. Albert. Problems in rehabilitation of patients after lobectomy, by R. W. Hyde and others. The results of unilateral and bilateral lobectomy: pilot study, by J. R. Beckwith and M. Ornstein. Illustrative cases of lobectomy, by M. Greenblatt and J. R. Beckwith. Part II, Special studies: Anatomical study of lobectomy, by P. Takervik and others. Corticospinal field changes after bilateral prefrontal lobectomy, by W. J. Beckwith and H. Munchik. Reactions of the frontal lobe to autonomic nervous system in man, by M. Khalil and others. The effect of lobectomy and of electrical stimulation of the orbital surface of frontal lobes upon respiration and blood pressure in man, by W. P. Chapman and others. Lobectomy and urinary bladder, by M. Khalil and others. Skin temperature changes after unilateral and bilateral prefrontal lobectomy, by D. Fekken and others. Measurement of motor withdrawal reaction in patients following frontal lobectomy, by W. P. Chapman and others. Lobectomy for the relief of intractable pain, by J. R. Dykes. Electroencephalographic and clinical effect of prefrontal lobectomy with consideration of postlobectomy convulsive seizures, by E. Levine and others. Psychosomatic changes following lobectomy, by C. R. Alford. Application of neurometric technique to the study of lobotomized patients, by J. R. Beckwith and R. W. Hyde. Occupational therapy for lobectomy cases, by R. W. Hyde and A. C. Webb. Part III, Summary, by M. Greenblatt and H. C. Webb.

Note: This book is a collection of special studies based on the experience with lobectomy at the Boston Psychopathic Hospital since the use of this procedure was initiated at this hospital in 1943. All of the studies bear directly or indirectly on the results of lobectomy in specific cases. The techniques used in analyzing results are carefully described. Excerpts from numerous case histories are included. In the summary at the end of the book the overall experience with 500 patients is discussed under the following subheadings: Immediate post-operative changes, autonomic nervous system, response to pain, electroencephalogram studies, psychologic studies, changes in behavior, chemical development, behavior, and specific indications for lobectomy. Literature references are supplied for most of the chapters.

GRINKER, ROY RICHARD, AND PAUL C BUCY

Neurology Fourth edition. Springfield, Illinois: Charles C Thomas, 1949. 1138 p. 11-1/2 x 7-1/2 in. 26 cm. \$12.50 1207

Contents: Technique of neurological examination. The spinal roots and nerves. Tumors of the peripheral nervous system and spinal cord. The vegetative nervous system. The brain stem and the cranial nerves. The motor system. The cerebellum. Intracranial tumors. The corticospinal motor system. Inflammation and infectious diseases of the nervous system. Degenerative diseases. Developmental defects. Epilepsy of the nervous system. Tumors of the central nervous system. The epilepsies. Epileptic crises and nervous agents affecting the nervous system. The sympathetic tract. Bibliography index.

Note: (1374) A widely used medical college textbook in which the subject is covered from the standpoint of clinical medicine. The third edition appeared in 1945. This is the first edition written with

consideration. Much reorganization and revision is evident both in the text, illustrations, and bibliography. The book is rigorously comprehensive and designed to make it useful to graduate physicians who are not specialists in neurology but find themselves in need of survey and reference book.

HAMBY WALLACE BERNARD

Intracranial aneurysms. Springfield, Ill. Charles C Thomas, 1952. 564 p. 11-1/2 x 7-1/2 in. 25 cm. \$14.25 1208

Contents: The cerebral circulation. General considerations. Progress of intracranial aneurysms. Infant intracranial aneurysms. Ruptured intracranial aneurysms. Arterio-venous aneurysms. General remarks concerning intracranial vascular surgery. Bibliography. Author index. Subject index.

Note: The author Professor of Neurological Surgery at the University of Buffalo School of Medicine, wrote this book with the aim to give the physician, and particularly the surgeon, a large collection of data on intracranial aneurysms. The information presented has been gathered in wide search of the literature. Forty-eight case reports and numerous illustrations, many of them presenting

excellent X-ray photographs, are incorporated in the text. The bibliography at the end of the volume is international in scope and gives full citations of 700 papers.

HICKS SAMUEL PENDLETON AND SHIELDS WARREN

Introduction to neuropathology New York: McGraw Hill Book Company Inc., 1950. 494 p. illus. 26 cm. \$12.50 1209

Contents: Reaction patterns in lesions of the nervous system. Circulatory disturbances, cerebral vascular accident. Disturbance of the corticospinal field and intracranial pressure relationships. Inflammatory diseases of the nervous system. Metabolic, toxic, and degenerative diseases. Mechanical injuries of the nervous system. Tumors of the nervous system. Maldevelopments and anomalies, neural tumors, epilepsy. Index.

Note: Among the outstanding features of this work are: relatively brief text and relatively large number of illustrations. The authors emphasize the viewpoint that the pathology of nervous tissue is not separate field from general pathology. They state, "The belief that nervous tissue has a set of pathological laws quite different from all other organs is not very more true than it is in the case of the heart exposed to the kidney. In discussing such topics as vascular accidents of the brain, they deal with the mechanisms as well as the pathological lesions. Most of the illustrations are reproductions of photographs of microscopic and macroscopic specimens. Literature references are included. The authors are faculty members of the Department of Pathology of Harvard Medical School.

HIMWICH HAROLD EDWIN

Brain metabolism and cerebral disorders. Baltimore: The Williams & Wilkins Company, 1951. 451 p. illus. 24 cm. \$6.00 1210

Contents: Part I, Introduction: Introduction. Feedoff of the brain. Mechanisms for maintaining the carbohydrate supplies of the brain. Mechanisms maintaining brain metabolism during hypoglycemia. The oxidation of carbohydrates in the brain. Aspects of cerebral metabolism. Cerebral metabolism during growth of lower animals—a biochemical basis for neurophysiology. Human cerebral metabolism. Temperature and their application to brain metabolism. Part II, Patterns of nervous activity: The metabolic division of the central nervous system—studied through the symptoms of hypoglycemia and acute anoxia. The autonomic division of the central nervous system—patterns of activity in the five pyloric layers. The vestibular and some other depressed drugs—a classification of clinical signs and theory of nervous. Prospects and problems for the future. Bibliography. Index.

Note: In this monograph recently developed techniques for the study of the metabolism of the brain and the measurement of cerebral metabolism rates are described, the accumulated information on brain metabolism is stated and discussed in some detail; thus the significance of brain metabolic rates and their possible control by drugs are related to cerebral disorders and their treatment. The work is a survey of progress to date and an examination of its significance rather than a didactic statement of principles and practice. The bibliography lists 1042 pertinent books and papers. The author is Chief of the Clinical Research Branch, Medical Division of the Army Chemical Center, Maryland.

INTERNATIONAL POLIOMYELITIS CONGRESS

Poliomyelitis papers and discussions presented at the first International Poliomyelitis Conference. Philadelphia: J. B. Lippincott Company, 1949. 360 p. illus. 27 cm. \$5.00 1211

Contents: Section one, The importance of poliomyelitis as world problem. Epidemiologic patterns of poliomyelitis in different parts of the world, by A. S. Balin. Economic aspects of the management of poliomyelitis, by H. J. Fadden. Section two, Poliomyelitis—pathogenesis of the early stage. The evolution of signs and symptoms of poliomyelitis, by L. McClelland. Poliomyelitis—pathologic anatomy, by D. Bodian. Some aspects of the pathologic physiology of poliomyelitis, by F. Beckwith. Section three, The management of poliomyelitis—the early stage. Diagnosis and treatment of poliomyelitis in the early stage, by J. A. Anderson. Section four, Poliomyelitis—the convalescent stage. The progressive pathology of poliomyelitis, by E. T. Bell. Progressive disabilities in poliomyelitis, by A. L. Watkins. Progressive disabilities in poliomyelitis, by E. L. Gersley and C. S. Allen. Section five, The management of poliomyelitis—the convalescent stage. The management of poliomyelitis

Contents: The central nervous system. The treatment of injuries to the cranial nerves. The treatment of injuries to the spinal cord. The treatment of injuries to the peripheral nervous system. The treatment of injuries to the autonomic nervous system. The effect of spinal anesthesia on the central nervous system. Emergency operations and other surgical procedures. The cost of medical care in paraplegia and how it may be modified by rehabilitation services. The responsibility of the hospital trustees and staff. Rehabilitation. Bibliography Index.

Note: A concise treatise designed for the information and guidance of general surgeons and general practitioners rather than specialists. It is devoted mainly to therapies which have been successfully used in the Department of Neurosurgery of the Boston City Hospital, of which department the author is Surgeon-in-Chief. Diagnosis, prognosis, and the applicable therapies are covered. Complications are discussed. The importance of rehabilitation is indicated, but the techniques are not covered. The bibliography lists papers on procedures of interest but with which the author has had no direct experience.

NIELSEN JOHANNES MAAGAARD

A textbook of clinical neurology. Third edition, revised and reset. With 212 illustrations. New York: Paul B Hoeber Inc. Medical Book Department of Harper & Brothers, 1951. 709 p. illus. 28 cm. \$10.00 1217

Contents: Diseases of the spinal nerves. Structures between the nerves and the spinal nerves. Diseases of the spinal cord. Diseases of the cranial nerves. Symptoms of the brain stem. Symptoms of the cerebellum. Symptoms of the thalamus. Diseases of the corpus callosum and subcortical white matter. The vegetative nervous system. Clinical cerebral localization. Lateralization and lateralization. Intracranial and spinal tracts. The efferent. Muscles and tendons in general. Multiple sclerosis. Diseases to the brain and spinal cord. Diseases involving themselves in the muscles or peripheral nerves. Degenerative diseases of the nervous system and the electroencephalography. Intracranial aneurysms. The psychoses. Alcoholism. Lumbosacral in clinical neurology Index.

Note: (1937) Clinical aspects are given primary emphasis in this established text for medical college students. The background anatomy and physiology are outlined concisely and used to give specific descriptions of diseases, diagnosis, and therapy. Although written for students, the conciseness of the volume, the specific descriptions of diseases, and the literature references make useful survey and reference book for medical graduates who are not specialists in neurology. In comparison to the previous edition, chapters have been added on intracranial aneurysms and the psychoses, and several other chapters and sections, notably those on epilepsy, poliomyelitis, and syphilis, have been rewritten.

PENFIELD WILDER, AND KRISTIAN KRISTIANSEN

Epileptic seizure patterns. A study of the localizing value of initial phenomena in focal cortical seizures. Springfield Ill. Charles C Thomas, 1951. 104 p. illus. 22 cm. \$3.75 1218

Contents: Introduction and case classification. Historical notes. Motor seizure patterns. Local somatomotor—local motor phenomena—initial sensory phenomena—initial autonomic motor and sensory phenomena—Psychical phenomena—Motoric phenomena. Summary. Clinical applications. References. Case Index. Subject Index.

Note: In this short monograph the authors discuss the value of seizure patterns in determining the region of the brain in which epileptic discharge occurs. The work is based on series of 159 cases of focal epilepsy studied and operated on by them and their colleagues. The cases were studied thoroughly by "preoperative electroencephalography, operative electroencephalography, chondroscopy under local anesthesia, electrical stimulation of the cortex, local cortical excitation and postoperative observation. Location of the discharge in the cortex was established in 125 of the cases. The book complements their *Epilepsy and cerebral localization*, Springfield, 1941.

SCHWAB ROBERT SIDNEY

Electroencephalography in clinical practice. Philadelphia: W B Saunders Company 1951. 195 p. illus. 25 cm. \$6.50 1219

Contents: Historical summary. The relation of neurophysiology to electroencephalography. The normal and abnormal electroencephalogram. Technique. The electroencephalogram in epilepsy. The electroencephalogram in neurological and neuropsychiatric problems. Electroencephalography in psychiatry. The electroencephalogram in research. Laboratory organization, training of staff, and interpretation of the results. Glossary Index.

Note: The aims and limitations of electroencephalography as techniques, and the characteristic features of electroencephalograms, form the main subject matter of this book. Its purpose is to inform specialists, particularly general practitioners, neurologists, and psychiatrists, about electroencephalography. The 104 pages include descriptions of many electroencephalograms. The author is Director of the Brain Wave Laboratory of the Massachusetts General Hospital.

WARTENBERG ROBERT

Hemifacial spasm: a clinical and pathophysiological study. Foreword by Macdonald Critchley. New York: Oxford University Press, 1952. 86 p. illus. 22 cm. \$4.00 1220

Contents: Hemifacial spasm—clinical features. Etiology of hemifacial spasm. Nuclear origin of hemifacial spasm. Cryptogenic hemifacial spasm and facial paralysis. Hemifacial spasm and spastic syndrome. Hemifacial spasm—a release phenomenon. Causes of release. Summary and conclusions. Bibliography Index.

Note: A small, carefully written monograph based both on clinical observation and study of the pertinent literature. The author reviews critically the observations and theories of other investigators and finally draws conclusions of his own. The chief of which is that "hemifacial spasm is an organic disease of the nervous system and usually is not caused by reflex stimulation of the facial nerve. There is bibliography of about 100 references.

WECHSLER, ISRAEL SPANIER

A textbook of clinical neurology, with an introduction to the history of neurology. Seventh edition. Illustrated. Philadelphia: W B Saunders Company 1952. 801 p. illus. 24 cm. \$9.50 1221

Contents (abridged): I. Methods of examination: Neurological examination and the interpretation of signs and symptoms. Psychological diagnosis. By D. Wechsler. II. The spinal cord: Acute anterior poliomyelitis (acute spinal paralysis). Family periodic paralysis. Compression of the spinal cord, injuries to the spine and spinal cord. Vascular diseases of the spinal cord. Muscular atrophies (the amyotrophies). III. The peripheral nerves: Muscles and neurophysiology. Diseases of the spinal nerves and plexuses. Tumors of nerves. Diseases of the cranial nerves. Neuropathy. IV. The brain: General symptomatology and local or regional diagnosis. I. Diseases of the brain. Aphasia. Cerebral arteriosclerosis of the brain. Meningitis. Encephalitis. Chorea (Sydenham's chorea). St. Vitus' dance. Syphilis of the nervous system. Tumors of the brain. Injuries of the brain. Disorders of maturity and diseases of the brain. Multiple sclerosis and the convulsive or paroxysmal state. The significance of paroxysmal headaches (Migraine). Affections of the autonomic nervous system. Nervous: Classification of the nervous. Clinical manifestations of the nervous. Treatment of the nervous. Disorders and the nervous system. Index.

Note: (1944) A widely used textbook and reference manual of the neurological conditions which are of clinical interest. Historical material is collected in one chapter and case reports are lacking. Most of the space is devoted to concise descriptions of symptoms, diagnosis, treatment, and other relevant aspects of wide variety of neurological syndromes. This seventh edition is an extensive revision with many changes in text, illustrations, and bibliography.

YEAR BOOK OF NEUROLOGY AND PSYCHIATRY

The 1951 year book of neurology and psychiatry. (November 1950–October 1951). Neurology edited by Roland P Mackay. Psychiatry edited by Nolan D C Lewis. Chicago: The Year Book Publishers, Inc. 1952. 356 p. illus. 20 cm. \$5.50 1222

Contents: Neurology. Introduction. Physiology. Pathology. Tumors. Infectious diseases. Vascular disturbances. Degenerative diseases. Tumors of the brain. Tumors of the spinal cord. Epilepsy. Cerebral and spinal nerves. Diagnosis and therapeutic methods. Psychiatry.

Introduction. General topics. Child psychiatry. Schizophrenia, affective disorders and subacute psychosis. Organic disorders and toxic reactions. Psychoses and psychosomatic disorders. Therapy Index. Index to authors.

Note (1957) This second publication is edited and organized similarly to the other manuals in the same series. The chapters consist of abstracts of articles selected from the world medical periodicals during the period noted in the title. A footnote reference to the original publication is given in all cases. The abstracts are long enough so that it is possible in most instances to describe the original author's findings in considerable detail. In many instances there is also a note by the editor in which the findings are evaluated or placed in other studies in the same area.

OPHTHALMOLOGY

BERENS, CONRAD editor

The eye and its diseases. By 92 international authorities. Second edition with 436 illustrations eight in color Philadelphia W B Saunders Company 1949 illus. (part col d) 1092 p. 26 cm. \$16.00 1223

Contents (abridged) 1. Embryology anatomy and postnatal development of the eye. 2. Physiology and physiological optics: Physiology of the eye, by L. H. Leopold. Physiology of vision, by F. E. Walsh. Physiological chemistry of the eye, by A. C. Kneass. Accommodation, by W. H. Laidlaw. 3. Examination of the eye. Visual acuity, by F. C. Keel. 4. Ophthalmology by L. H. Hardy. 5. The eye and its diseases. The color sense and its disorders, by B. Chace. Transillumination or diaphanoscopia, by C. E. G. Shumway and W. T. Hunt. 6. Goniocopy, by M. Uribe Troncoso. 7. Refraction and accommodation. Diagnosis and treatment of errors of refraction, by D. H. O'Rourke. Anisometropia, by K. M. Opt. Anomalies of accommodation, by W. H. Laidlaw. 8. Diseases of the eye. Diseases of the orbit, by W. L. Brewster. Diseases of the conjunctiva, by P. Teyssie. Trachoma, by E. Linder. Diseases of the sclera, by F. B. Frazer. Diseases of the vitreous, by W. E. Fry. Glaucoma, by H. S. Gault. revised by Sir S. Duke Elder. 9. Medical ophthalmology. Tuberculosis of the eye, by R. Scamman. Ocular syphilis, by J. H. Wata. 10. Movements of the eyeballs and their control. 11. Lesions of the eye. 12. The eye and the nervous system. 13. Treatment. Surgery of the eye, by F. C. Cordes and G. S. Campbell. Anesthesia, by C. S. O'Rourke. Operations on the eyelid and plastic surgery, by E. R. Branch. Operations on the cornea, by M. Wiener. Operations on the lens, by M. Ascher. Operations for glaucoma, by D. Van Dine. Operations on the sclera and sclera, by W. B. Lancaster. Surgery of the orbital cavity, by S. L. Goss. 14. Preventive ophthalmology. 15. Immunology. 16. Legal aspects of ophthalmology. 17. Laboratory diagnosis. Index.

Note. There are 16 chapters in the present edition of this lengthy treatise. A majority of the contributors are United States of America citizens but the medical professions of several countries is represented. The typical chapter is concise but useful presentation of the essential clinical information, supplemented by an extensive list of references to the international literature. Both medical and surgical therapies are covered. A considerable range of important material has been added in this edition. Some of the chapters are new and many of those have been revised. There are new illustrations, and references to the recent literature have been added to the bibliography. The first edition was published in 1916.

FRIEDENWALD, JONAS S., and OTHERS

Ophthalmic pathology: an atlas and text book. By Jonas S. Friedenwald, Helenor Campbell Wilder A. Edward Maumenee, T. E. Sanders, John E. L. Keyes, Michael J. Hogan, W. C. and Ella U. Owens. With the editorial assistance of Helen Knight Steward. Published under the joint sponsorship of the American Academy of Ophthalmology and Otolaryngology and the Armed Forces Institute of Pathology Philadelphia W B Saunders Company 1952 489 p. illus. 29 cm. \$18.00 1224

Contents. Introduction—nomenclature and physiological considerations. Histology. Growth and aging. Nature and mechanism of inflammation.

tion, Endophthalmitis and phthisis bulbi. Focal lesions in endogenous endophthalmitis. Granulomatous inflammation. Injuries. Extracapsular cataracts. Diseases of conjunctiva and cornea. Diseases of the lens. Intracapsular cataracts, glaucoma and hypopyon. Diseases of the ocular bulb. cataracts, optic disc and optic nerve. Congenital and developmental anomalies. Presenile and senile cataracts. Hereditary and degenerative diseases. Tumors. Index.

Note. A well-planned work designed for use as a textbook and at the graduate level. The atlas portion consists of 124 plates, most of which contain reproductions of several microphotographs. The text is an authoritative statement—based on the literature—of the current knowledge of pathology of the eye. The book is put together in that appropriate sections of the atlas are bound between text chapters, hence related parts of the text and the atlas are adjacent to one another. The pictorial material has been drawn from the Registry of Ophthalmic Pathology, division of the American Registry of Pathology. The illustrations are clearly reproduced.

HOGAN, MICHAEL JOHN

Ocular toxoplasmosis. New York Published for the American Ophthalmological Society by Columbia University Press 1951. 86 p illus 24 cm. \$2.75 1225

Contents (abridged). Introduction. Toxoplasma. Clinical manifestations. Central ocular manifestations. Microphthalmology. Diagnosis of toxoplasmosis. Serologic diagnosis. Differential diagnosis. Treatment of toxoplasmosis. Relationship between toxoplasmosis and toxins. Case reports. Ocular changes in experimental toxoplasmosis. Therapeutic effect of drugs and antibiotics against toxoplasma. Discussion. Summary. References.

Note. A monograph based both on the literature and on original studies carried out by the author. One of his lectures is tabulated list of ocular findings in 78 cases of proved or probably congenital toxoplasmosis which have been reported in the literature. Detailed case reports are included for six cases. Among the author's conclusions is "a possible diagnosis of toxoplasmosis may be made on the basis of clinical findings plus isolation of toxoplasma from body fluids or observation of the parasite in suspected cases." The monograph contains much information on diagnostic techniques.

LANCASTER, WALTER B

Refraction correlated with optics and physiological optics and motility limited to heterophoria. Springfield, Illinois Charles C Thomas, 1952 310 p illus. 24 cm. \$7.75 1226

Contents (abridged) Part I. Optics and physiological optics. Light—combination of waves. Shadows—collection by plane surfaces—image formation by mirrors—specification. Reflection of light. Refraction by curved surfaces. Cylindrical lenses. Prismatic effect of lenses. The eye as an optical instrument. Accommodation. Diplopia. Part II. Errors of refraction and motility. Myopia. Hypermetropia. Astigmatism. Measurement of astigmatism. Subjective astigmatism. Presbyopia. Ocular motility as a corollary part of subjective astigmatism. Vergence. Classification of phorias of the eyes for treatment. Esotropia. Appendix. Index.

Note. In this book the author has related refraction and motility to the daily work of the graduate ophthalmologist. The book is intended as a supplement to standard treatises and therefore devotes little space to aspects that are in the author's opinion adequately treated in other works. The treatment of these topics is selective and as related as closely as possible to the eye and to specific problems. His discussion of such ophthalmological conditions as phorias are confined to the terminology of ophthalmologic office practice.

MAY CHARLES HENRY

May's manual of the diseases of the eye, for students and general practitioners. Twentieth edition, revised and edited by Charles A. Perera. With 378 illustrations including 32 plates, with 93 colored figures. Baltimore Williams & Wilkins Company 1949 512 p. illus. (part col d) 20 cm. \$5.00 1227

Contents (abridged) External examination of the eye and its adnexa. Subjective or functional examination of the eye. Objective examination of the eye conducted in the dark room. Ocular inspection, the ophthalmoscope, transillumination and the current microscope with slit-lamp. Affections of the eyelids. Diseases of the

lateral apparatus—the iris—the conjunctiva—the cornea—the sclera—the iris—the ciliary body—the choroid. Furthering wounds of the globe, lacerations, tears. Glaucoma. Diseases of the vitreous—the lens—the retina—the optic nerve. Amblyopia. Optical conduction of the eye. Errors of refraction. Disturbance of motility of the eye. Ocular therapeutics. General rules for eye operations. The ocular complications of general disease. Appendix: Ocular requirements for entrance into the Army Navy Marine, Coast Guard and Air Services of the United States. Index.

Notes: (1970*) A concise manual for medical students and general practitioners of medicine rather than for specialists. It has been standard work since the appearance of the first edition in 1900 and it has been translated into many languages. In this edition the text has been thoroughly revised and the type from which the book is printed was reset. The length and the scope are essentially the same, but there is much new material and few similar of new illustrations. The reviewer is member of the faculty of the College of Physicians and Surgeons of Columbia University.

PASCAL JOSEPH IRVING

Studies in visual optics. St. Louis The C. V. Mosby Company 1952 800 p. illus. 22 cm. \$12.50 1228

Contents (abridged): Lenses—physical and optical properties. Transmission of lenses. Thin lenses. The reflex method in ophthalmic calculations. A physiological approach to refractive errors. Ophthalmic calculations for the "ideal" lens. Observations on visual and ocular aberrations. A non-geometric approach to the theory of telescopes. Principles and applications of cylinder refraction. Spectacular techniques in the practice of refraction. The concept of refractive vergence, reduced power and reduced distance. Axes and angles of the eye. The cardinal points and planes. Some observations on myopia. Calculating stereoscopic vergence. The stereoscope as an aid in the correction of anisometropia. The technique and measurement of accommodation. The mechanism and measurement of convergence. Binocular fusion tests and their significance. A new approach to cross cylinder tests. Cross cylinder analysis vs. the chart method. True and apparent correction of anisometropia. Field correction for lens correction in hyperopia. Spectacular analysis of the visual functions. Refraction by prisms. Refraction by spherical surfaces. Refraction by thin lenses. Thick lenses and lens combinations. Some facts relative to lens power. Optical effects of contact lenses. Optical and visual effects of distal lenses. A graphic study of the ocular aberrations. Dioptric fields as charted from human eyes. Appendix. Index.

Notes: Although there are 44 chapters in this book which is not systematic treatise but collection of writings on various topics. The wide range of topics is obvious from the selected titles given above. The reader states, "I have chosen a number of topics which I felt needed clarification, and/or were interrelated and/or considerable simplification. Some of the chapters, for instance that on the "ideal" lens, offer useful short cuts, others such as the one on "Optical effects of contact lenses" attempt to clear up points that are poorly understood or misunderstood by ophthalmologists. The book is of interest primarily to graduate ophthalmologists and optometrists.

PROGRESS IN OPHTHALMOLOGY AND OTOLARYNGOLOGY a quadrennial review Volume 1. Part One—Ophthalmology edited by Meyer Wiener and A. Edward Maumenee. Part Two—Otolaryngology edited by Percy B. Ireland and Joseph A. Sullivan. New York Grune & Stratton 1952 666 p. illus. 24 cm. \$15.00 1229

Contents (abridged): 1. Basic science in ophthalmology Anatomy and embryology by J. J. Pendergast. Biochemistry pharmacology and toxicology of the eye by W. M. Grant. Computational anatomy, by A. M. Yafko. Electrophysiology of vision, by R. H. Bartley. 2. Diagnosis and treatment of diseases of the eye The iris and lateral apparatus, by A. Callahan. Conjunctiva, by J. G. Mellow. Contact and corneal lenses, by M. W. Morgan. Retrolental fibroplasia in premature infants, by W. C. Owens and R. U. Owens. Orbital lesions, by J. W. Bellman. Recent advances in the treatment of glaucoma with osmotic drugs, by G. B. Koelle. Tumors, by J. B. McGee. Progress in neuro-ophthalmology, by M. Foss. ACTH and cortisone therapy in ophthalmology, by J. McGee. Antihistamines in ocular infection, by A. E. Bailey. 3. Surgery of the eye Recent advances in surgery of the eye, by R. Y. Alvir and E. B. Alvir. The use of silica capsules in ocular surgery, by A. L. Brown. Enucleation and the newer implants, by N. L. Carter. 4. Related subjects in ophthalmology: Industrial ophthalmology since World

War II, by H. S. Kahn. Education and rehabilitation of the blind, by M. B. Trumbull. 5. The eye. Ocular media with cataracts, by D. Hooper. Recent advances in the use of histoplastic tests, by W. J. McNally and K. A. Street. Theories of hearing, by M. H. Lurie. Progress in the surgical treatment of cataracts, by J. A. Sullivan and J. K. B. Smith. Surgery of Meckel's diverticulum, by F. D. Lasker. Recent advances in the surgical treatment of facial paralysis and Bell's palsy, by J. A. Sullivan. The problem of noise in industry, by H. P. Hesse. Therapeutic and toxic effects of streptococci and other antibiotics on the eye, by A. Clark. 11. Men, diseases and neoplasms. Nasal sinus and nasal mechanisms, by G. K. Trumble. Treatment of acute frontal sinusitis, by R. L. Goodale. The modern conception of headache, by L. E. Bolles. X-ray findings in melanoma of the iris, iris and neoplasms, by A. R. Macdonald and A. R. Macdonald. 12. In, Larynx, tracheo-bronchitis and emphysema. Treatment of carcinoma of the larynx, by L. H. Clark. Recent advances in surgical treatment of lesions of the esophagus, by F. K. Ireland and D. P. Ryan. 14. Allergy. Outline on allergy as related to ophthalmology, by F. K. Ireland. The basis for use of cortisone and ACTH in treatment of ophthalmic conditions, by H. L. Williams. Index.

Notes: (1974) A complementary volume to M. Wiener Ophthalmology on the eye part, Chicago, 1944-48. It covers the developments reported in the literature from July 1946 through 1951. Each of the 43 chapters is concise literature digest accompanied by bibliography. The purpose of the work is to aid general practitioners of medicine and other medical men in keeping abreast of developments.

SAMUELS BERNARD AND ADALBERT FUCHS

Clinical pathology of the eye a practical treatise of histopathology With 418 illustrations, 191 in full color New York Paul B. Hoeber Inc. 1952 420 p. illus. (part cold) 28 cm. \$20.00 1230

Contents (abridged): General pathology. The cornea. The iris. The sclera. The lens. The retina. The optic nerve. The vitreous body. Myopia. Tuberculosis. Syphilis. Presumptive pathological changes and their compensatory changes. Tumors. Lesions.

Notes: A large collection of microphotographs, of high considerable number are reproduced in color, is an outstanding feature of this work. These microphotographs are supplementary to rather detailed descriptions of pathological disorders of the eye, and the authors have given special attention to elucidating observations which may be difficult to interpret. For example "A foreign body lying on the retina may be white white pink white the same." A dark gray spot of area may or may not reflect the light's eye as is more white. The book is bound primarily on the authors' laboratory and clinical experience in Vienna and New York City.

SOMMER IGNATIUS GEORGE

Histology and histopathology of the eye and its adnexa. New York Grune & Stratton, 1949 784 p. illus. 22 cm. \$12.00 1231

Contents (abridged): Part one. Normal histology of the eye. Embryology of the eye. Summary of the eye. Part two. General pathology of the eye. Part three. Histopathology of the eye. Pathology of the cornea. Pathology of the sclera. Pathology of the iris. Pathology of the retina. Pathology of the optic nerve. Pathology of the lens. Pathology of the vitreous body. Pathology of the ciliary body. Pathology of the choroid. Pathology of the lacrimal system. Pathology of the orbit. Ocular developmental abnormalities. Glaucoma. Myopia. Infection. Surgery and its complications. Index.

Notes: The first two parts of this book on normal histology and on general pathology occupy only 125 pages, whereas 611 pages are devoted to the third part. In the chapters of the last part chapters of the histology of the eye are fully discussed, chiefly in terms of the various elements of the eye. The chapters are conventional. First there is a detailed description, then a concise summary of the pertinent literature identified only by authors' names and, finally.

Normal histology of the histological literature. There are only 60 figures, but these are of good quality. According to the author the book is an elaboration of instructions because that he gave over period of years to undergraduate medical students. The bibliography (taken together) constitutes fairly comprehensive list of the world's literature from 1920 to 1947 but unfortunately the authors' names have not been indexed.

STERN JOHN JACOB

Nutrition in ophthalmology New York The National Vitamin Foundation, Incorporated

and others. In vitro methods for study and cultivation of plasmodia, by G. M. Gileman. Section xi, Definitive hosts: Insect vectors, by Col. Sir R. Christophers. Amphiparasitoses—meroparasitism in different stages and hosts—life history by H. S. Lounsbury and F. A. Buxton. The physiology of meroparasitism, by V. B. Wright-Smith. Ecology of meroparasitism, by M. Bates. Colicins and similar meroparasites and the malarial infections of lower animals, by L. Vargas. Laboratory methods for the study of malarial parasites, by R. J. Partus. Techniques applicable to experimental infection of birds, by R. Herrell. Section iv, Intermediate hosts: Epidemiology of malaria—factors related to the intermediate host—factors related to the definitive host, by M. F. Boyd. Endemic and epidemic prevalence, by Col. Sir R. Christophers. Values of serology—epidemiology and immunology, by M. F. Boyd and others. The pathologic anatomy of malaria, by H. C. Clark and W. J. Traub-Dietatz. The physiologic pathology of malaria, by J. D. Fabian and R. G. Margolish. Immunity to the malarial infections, by W. H. Tallerman. Old and new plasmodicides, by L. T. Campbell and R. Craig. Prevention of malarial infections by drug prophylaxis, by J. J. Saper. Treatment of patent infections, by W. S. Davis. Induced malaria as therapeutic agent, by F. T. Becker. Section v, Control and eradication: General considerations in control and eradication, by Sir M. Watson. Species sanitation and species sanitation for the control of mosquito-borne diseases, by F. L. Soper. Mosquito repellents, by E. F. Kalsbeek. Immunization, by L. T. Campbell. Drawings of mosquito-biting vector collections, by R. H. Meyer and others. Mosquito-biting vector control, by R. B. Williams. Control of malaria in the United States Army, by J. S. Sauerman. Planning for malaria control, by M. F. Boyd. Appendix. Index.

Notes: The contributors to this monumental work include collections of several nations and their papers were written separately for R. The two volumes contain together 70 papers or chapters. Not least there are several tables and figures in three series of the papers each which cover the morphology, the incidence of malaria, and the control of malaria in the various regions of the world. The appendices contain lists of equipment for field and laboratory investigations, drawings of immunization and descriptions of equipment and supplies for use in malarial control. Each chapter is accompanied by extensive references. The indexes are exceptionally full, and the author index includes the names of authors of cited papers.

CHANDLER, ASA CRAWFORD

Introduction to parasitology with special reference to the parasites of man. Eighth edition. New York: John Wiley & Sons, Inc. 1949. 756 p. illus. 24 cm. \$6.50. 1238

Contents (abridged): Parasites in general. Part I—Protozoa: Sporozoans, Ascomycetes, Basidiomycetes and Oomycetes. Hemoflagellates. The Spermatazoa. Part II—Helminthology: The Trematodes or Flatworms. The Cestodes or tapeworms. Acanthocephala (spiny-headed worms). Trichocephala, Trichinae, and their allies. The Nematodes and their allies. Flukes, sporozoa, and green worms (Nematodes, Sporozoa, and Ctenophores). Part III—Arthropods: The Acarines. Ticks. Beetles and other Hemiptera. Lice, Amblypoda, and Mallophaga. Flies, Diptera. Bees and other Hymenoptera. Index.

Notes: (1408) A long established introductory text in which biological rather than public health or medical aspects are emphasized. It is used as a text for first course in the subject in medical schools, schools of nursing, etc. In this edition there are many new illustrations, and some of these carried over from previous editions have been redrawn. There are new discussions of such topics as leishmaniasis and insect repellents, arthropod-borne viruses, etc. The bibliography has been revised.

CRAIG CHARLES FRANKLIN AND ERNEST CARROLL FAUST

Clinical parasitology. With a chapter on "Control of medically important arthropods" by Albert Miller. Fifth edition, thoroughly revised, illustrated with 326 engravings and 6 colored plates. Philadelphia: Lea & Febiger. 1951. 1032 p. illus. (part col d) 24 cm. \$12.00. 1239

Contents (abridged): Section I. General introduction and orientation: The epidemiology of parasitic infections. The diseases produced by parasites in the human body and their manifestations. Diagnosis, prognosis and treatment of parasitic infections. The geographical distribution of parasitic infections, with special reference to human diseases. Section II. Protozoa.

Proteins and protozoan infection. Section xi, Helminths and helminthic infections: The roundworms. The spiny-headed parasites of man. The Cestodes or tapeworms. The morphology, biology and classification of the flatworms (Platyhelminths). The digestive tract of flatworms, general considerations. The cestodes or tapeworms of man. The Acanthocephala or spiny-headed worms. The leeches (Hirudinea). Section iv, Arthropods and human diseases: The morphology, biology and classification of arthropods of medical importance. Insects of medical importance. Hymenoptera (Hymenoptera) and sucking flies (Diptera). The flies or Diptera. The bees or Hymenoptera. Insects causing venereal diseases, and venereal diseases of man. Section v, Technical aspects: Techniques and aids for the collection, culture, propagation and identification of parasites. Techniques and aids for the collection, propagation and identification of arthropods of medical importance. Hymenoptera (Hymenoptera) and sucking flies (Diptera) and technical aids in clinical parasitology. Section vi, The literature of clinical parasitology. Index of authors. Subject index.

Notes: (1071) A long-established comprehensive text for students and reference manual for practitioners, laboratory workers, and clerical of diagnostic laboratories. It is presented the most essential facts regarding symptoms, methods of diagnosis, treatment and control of these parasites which are of clinical and public health interest. The fourth edition was published in 1945. A substantial amount of material has been added in the present edition, including the development of the drug resistance of malarial parasites and the other vectors since World War II and subsequently. Also, the recent literature has been added to the extensive, classified bibliography.

FAUST, ERNEST CARROLL

Human helminthology. A manual for physicians, sanitarians, and medical zoologists. Third edition, thoroughly revised with 313 engravings. Philadelphia: Lea and Febiger. 1949. 744 p. illus. 24 cm. \$10.00. 1240

Contents (abridged): Section I, The scope of helminthology: The phylum of parasites in helminth groups. The morphology of helminthic infections. The importance of the helminth parasites and the control of the helminth infections of man—the scope of the problem. The scientific nomenclature of helminth parasites. Section II, The flatworms or Trematodes. The transmission of flukes. The human blood flukes. Trematode parasites of the intestinal tract, biliary passages and lungs. The cestodes or tapeworms. Section III, The Acanthocephala, or spiny-headed worms. Section IV, The Nematodes, or true roundworms. The spiny-headed parasites of man. The phylum nematode parasites of man. Section V, The Nematodes. The Cestodes or tapeworms. Section VI, The Acanthocephala. The leeches (Hirudinea). Section VII, Technical aids in the diagnosis and treatment of helminthic infections. The basic equipment required for the diagnosis of helminthic infections. The collection, propagation and preservation of helminthological material. The identification and differential diagnosis of helminth parasites, their larvae and eggs. Intermediate and reservoir hosts involved in human helminthic infections. Antibiotics and their use. Important literature on human helminthology. General literature. Literature on special groups. Author index. Subject index.

Notes: (1412) A comprehensive manual which is used both for teaching and for reference. The third edition is an extensive revision of the previous edition. New data and concepts have been introduced, including information from biological research, from investigations conducted during military operations in warm climates during the war years (1942-1945); older information has been re-evaluated. The chapter on Helminths (leeches) is now as a glossary of nomenclature and medical terms contained in the first chapter. The bibliography has been substantially increased and brought up to date. Thirty-four new illustrations have been added and more older ones revised and corrected.

GRADWOHL, RUTHERFORD BIRCHARD

HAYES AND OTHERS editors. Clinical tropical medicine. R. B. H. Gradwohl, editor-in-chief. Luis Benitez Soto, Oscar Felsenfeld, editors. With 473 illustrations and 6 color plates. St. Louis: The C. V. Mosby Company. 1951. 1647 p. illus. (part col d) 26 cm. \$22.50. 1241

Contents (abridged): Internal medicine of man, by E. H. Rabin. Anemia, dysentery, hepatic disease, and other intestinal conditions caused by parasites, by G. Felsenfeld and V. M. Young. Malaria,

sources in the source articles. The author index includes the names of all authors of cited papers. The book is of interest to peripheral bacteriologists, physicians specializing in tropical medicine and parasitology and parasitologists doing research in parasitology. The author is associated with the Laboratory of Tropical Diseases of the National Institute of Health.

WARSHAW, LEON J

Malaria, the biography of a killer New York: Rinehart & Company Inc., 1949 348 p. 22 cm. \$3.75 1247

Contents (abridged). Part one, Chills and fever: The world's greatest killer. Great men and fever. Malaria in America. Part two, From miasma to malarial: Laveran's discovery. The mosquito theory. Malaria, the father of tropical medicine. Ross and mosquito. The Great and the mosquito. Part three, Malaria control. Walter H. Hays. Gorgas and the Panama Canal. The Brazilian epidemic. Ditching, drain and spray. Mice and repellents. Part four, Chills, quinine and malaria: The fever tree. The active principle. The victory of quinine. Chills in the East. India. Quinine and the parasite. The dead dog. Part five, Malaria in war. Part six, Artificial malaria. Part seven, The future. Bibliography. Index.

Note: A popular account of malarial, not yet scientific battle against malaria. There is an emphasis on the sentimental aspects of the subject, but the facts and the author's lucid style hold the reader's attention. The bibliography is selected on the basis of articles used by the author in the preparation of the book. However it is not keyed in any way to passages in the book.

RESPIRATORY DISEASES

DAWBER, THOMAS ROYLE, AND LLOYD E HAWES

Diseases of the chest. Baltimore: The Williams & Wilkins Company 1952 440 p. illus. 26 cm. \$10.00. 1248

Contents (abridged). General chest. Methods of examination. Chest wall. Diseases of the diaphragm. Diseases of the pleura. Diseases of the mediastinum. Diseases of the trachea and bronchi. Pulmonary tuberculosis. Diseases of the heart. Diseases of the lungs (other than tuberculosis). Bibliography. Index.

Note: One of the authors of this book is a surgeon and the other is a specialist in radiology. Both have been lecturers for many years in chest diseases. The one of X-ray in the diagnosis of chest diseases is covered thoroughly and all of the 116 figures are reproductions of chest roentgenograms. However the text is not limited to the roentgenology of the chest. The book subject is covered with due attention to other diagnostic techniques such as tuberculin skin tests and sputum examination of sputum. Therapeutic measures are well covered also.

MYKES JAY ARTHUR

Tuberculosis among children and adults. Third edition. An introduction by Allen K. Krause. Springfield Illinois: Charles C. Thomas, 1951 894 p. illus. 24 cm. \$13.50 1249

Contents (abridged). Introduction to first and second editions, by A. E. Koss. Part I, Tuberculosis in infancy. Recent progress in tuberculosis and its practical application to diagnosis, treatment, and prevention. Summarization and terminology. Congenital tuberculosis. Results of exposure to tuberculosis. First infectious type of tuberculosis in infants. Other forms of tuberculosis in infancy. Tuberculosis meningitis, by C. A. Stewart. Part II, Tuberculosis in childhood. Diagnosis and treatment of first infectious type of tuberculosis in the chest in childhood. Progress and prevention of first infectious type tuberculosis in childhood. Other tuberculosis lesions in childhood. Chronic non-infectious lung pulmonary disease in childhood, by C. A. Stewart. Part III, Tuberculosis among young adults and other considerations. First infectious type of tuberculosis among young adults. Diagnosis of infectious type of pulmonary tuberculosis among young adults. Treatment, prophylaxis and prevention of infectious type of pulmonary tuberculosis among young adults. Progress in tuberculosis control. The diagnosis. Main surveys and the detection of tuberculosis. Childhood and tuberculosis control. Control of tuberculosis among students. Tuberculosis and war. Treatment of pulmonary tuberculosis by mechanical

therapy by R. C. Minton and W. S. Coiffa. Countermeasures in the treatment of pulmonary tuberculosis, by J. D. Burch. Extrapulmonary tuberculosis in the treatment of pulmonary tuberculosis, by J. R. Hend. Sterilization in the treatment of pulmonary tuberculosis, by O. T. Clagett. Effectiveness of tuberculosis control measures. Index.

Note: A standard treatise in which both clinical and public health aspects are covered. The author has been one of the most active American workers in the advancement of the control of tuberculosis, and he has incorporated in this book the gist of not only his own writings but of those of other authorities in the United States of America and abroad. The book is addressed to the student medical practitioners and public health personnel rather than to under graduate students. The second edition was published in 1948. Much material reflecting the great advances in the control of tuberculosis and its decline as a major disease among children and young adults has been added in this edition. The additions include the whole fourth part.

RICH ARNOLD RICE

The pathogenesis of tuberculosis. Second edition. Springfield, Illinois: Charles C. Thomas, 1951 1028 p. illus. 26 cm. \$15.00 1250

Contents (abridged). The relation of the chemical constituents of the tubercle bacillus to pathogenesis. The different types of tubercle bacilli. The nature and effects of virulence. Active resistance—specific and natural resistance—innate resistance—the influence of heredity—the influence of sex and age. The mechanism of path. resistance. Hypersensitivity. Desensitization. Acquired resistance. The mechanism of acquired resistance. Factors that influence resistance. The influence of the number of bacilli. The factors responsible for the characteristics of tuberculosis lesions and symptoms. Exposure of organisms to infection—is an essential primary infection protective of subsequent infection? Application of the principles of pathogenesis, as illustrated by tuberculosis lesions of the lungs, mediastinum and aorta. Conclusion. The decline in the mortality from tuberculosis, and the outlook for the future. Bibliography. Author index. Subject index.

Note: (1945) A comprehensive presentation of the vital knowledge of tuberculosis with particular attention given to the mechanisms of infection, resistance to infection, and the arrest of infection. Especially it is an expert critical survey of the literature, and refers to the sources are carefully made from statements in the text to the bibliography. The scope and reach of the content of the work are emphasized in this edition. Nevertheless, the reviewer has been carefully done in order to include all of the important results published in the literature since the writing of the first edition. The author is a member of the faculty of Johns Hopkins University School of Medicine and Pathologist-in-Chief of the Johns Hopkins Hospital.

SINGER JACOB JESSE

Differential diagnosis of chest diseases with 171 illustrations. Philadelphia: Lea & Febiger 1949 344 p. illus. 24 cm. \$7.50 1251

Contents (abridged). Diagnostic methods: Laboratory methods: Mechanical aids. Roentgenology. Thoracic cage. Defectibility, fractures and inflammation of the thoracic cage. Tumors of the chest wall. Diseases of the pleura. Mediastinum. Diaphragm. Tracheobronchial tree and lung: Anatomy and tuberculosis. Diseases: Bacterial: Bacteroides, Streptococcus, Staphylococcus. Fungal: Pneumocystis, Histoplasma, Coccidioides, Cryptosporidium, Histoplasma, Blastomycosis. Parasitic: Paragonimiasis, Fascioliasis, Echinococcosis. Trauma: Trauma of the lung. Cancer of the lung (carcinoma). Secondary cancer. Index.

Note: A reader work designed primarily for the guidance of general practitioners of medicine. The author theme is accurate differential diagnosis based on information obtained from all applicable techniques. Roentgenology is included but its value is not overemphasized. Generally speaking such diseases as discussed under the following heads: strategy pathology clinical symptoms, physical signs, Roentgenology findings, laboratory findings, and differential diagnosis. The presentation is concise, but bibliography of related books and periodicals is given for each disease. The author is Medical Director of the Rose Lambert Graf Foundation.

VORWALD ARTHUR J editor

Pneumoconiosis. Beryllium fluoride fumes, compensation. Leroy U. Gardner memorial volume. (Sixth Saranac symposium) Edited by Arthur J. Vorwald with the collaboration

erens is supplied. The author is Chief of the Urological Service of the Massachusetts General Hospital and member of the faculty of Harvard Medical School.

HERBUT PETER ANDREW

Urological pathology 527 Illustrations, including 2 in color Philadelphia Lea & Febiger, 1952 2 v illus. (part cold) 24 cm. \$24 00. 1257

Contents: Volume I: Embryology of urinary system. Urethra. Bladder. Ureters and pelvis. Kidneys. Index. Vol. II: Adrenal. Embryology of male genital system. Penis. Prostate. Seminal vesicles. Ejaculatory duct. Epididymis. Testis. Scrotum. Index.

Note: A comprehensive, well illustrated work. It is arranged by region, and under each region the individual diseases are discussed under the following subheadings: definition, distribution, cause, clinical manifestations, microscopic appearance, gross appearance, complications, clinicopathologic correlations, diagnosis, treatment and prognosis. Extensive literature references are included. Although suitable for use as instruction, the book is essentially reference work rather than textbook. The author is Professor of Pathology at the faculty of Jefferson Medical College.

LIPPMAN RICHARD WILLIAM

Urine and the urinary sediment, a practical manual and atlas. Springfield, Illinois Charles C Thomas, 1952 124 p. illus. (part cold) 26 cm. \$7.50 1258

Contents: Proteinuria and elements of the urinary sediment. Observations on the urine in disease. General considerations and techniques. References. Index.

Note: The main feature of this short monograph is a series of 57 reproductions in color of photographs of urinary sediments. These photographs are original and were made by the author. In the text of the book the author has discussed the interpretation of urine from the standpoint of the clinician interested in the diagnosis of disease. Also he has described specifically and in detail clinical laboratory procedures. The list of references includes 93 citations.

MCCREA, LOWRAIN EDWARD

Clinical cystoscopy technic, procedures diagnosis treatment. Drawings by R. Engle Shafter With 742 illustrations 201 in color Second edition. Philadelphia F. A. Davis Company 1949 585 p. illus. (part cold) 26 cm. \$28.00 1259

Contents: (abridged) Vol. I: The cystoscope. Introduction of the cystoscope. The normal bladder. Cystitis. Malignant disease of bladder. Tumors of the bladder. Vesical calculus. The neurogenic bladder. Prostatic hypertrophy. The ureters. Urinary catheterization. Bibliography. Index. Vol. II: Renal anomalies. Renal function tests. Hydronephrosis. Nephrocalculus. Infection of the kidney. Medical diseases of the kidney. Specific infections of the kidney. Renal cysts. Tumors of the kidney. Extrarenal cysts and tumors. Dialysis in the female. Dialysis in children. Urological resectomy. Bibliography. Index.

Note: A comprehensive, fully detailed treatise addressed to urologists and graduate medical colleges at which, general practitioners of medicine, gynecologists, and specialists in urology. The various cystoscopic manipulations and procedures are both described in the text and shown in the illustrations. The illustrations are special features. Not only are they numerous but they are clear and well reproduced. Many of the colored illustrations are reproductions of photographs taken in color. The first edition was published in 1945. Many useful revisions and improvements have been made in this edition. Both the textual material and the illustrations have been increased. The index has been much improved.

NARATH PETER ALFRED

Renal pelvis and ureter New York Grune & Stratton, 1951 429 p. illus. 26 cm. \$12.50 1260

Contents: Terminology. The embryology of the ureter and the renal pelvis. The final form of the renal pelvis. The normal anatomy of the ureter and the renal pelvis. The normal histology of the renal

pelvis and the ureter. The dynamics of the upper urinary tract. The laws of the urinary tract. Resorption and absorption in the upper urinary tract. Various forms of extractions. The roentgenography of the upper urinary tract. Radiography. Index of authors. Index of subjects.

Note: A monograph on the embryology, gross and microscopic anatomy and the physiology of the upper part of the urinary system. Basic knowledge is emphasized, but since the book is designed to be of practical aid to urologists, considerable information that is directly related to diagnosis is included. The book is based both on the literature and on the author's own investigations. The bibliography covers publications from 1877 to 1950 and is arranged chronologically. The 164 figures include reproductions of many exceptional roentgenographs.

PRATHER, GEORGE CALVIN

Urological aspects of spinal cord injuries. Springfield Ill. Charles C Thomas 1949 146 p. illus. 22 cm. (American lecture series. Publication no 30) A monograph in American lectures in surgery edited by Michael E. DeBakey and R. G. Spurling. Division of neurosurgery editor Barnes Woodhall) \$3 75 1261

Contents: The bladder. Changes in upper urinary tract after spinal cord injury. Changes in sexual organs after spinal cord injury. Genito-urinary complications. Results of treatment. Military policy suggested program for treatment. References. Subject and author index.

Note: An authoritative review of the pertinent anatomical and urological knowledge of genitology of treatment, and of experimental, especially in World War II. Essentially it is a digest of previously published literature including the author's own contributions. Many references are incorporated in the text to the citations of source articles in the extensive bibliography. The book is also a guide to the literature of the subject.

THOMAS EVAN WELLING

Syphilis its course and management. Foreword by John F Mahoney Chapter on "Public health aspects of syphilis" by Theodore J Bauer New York The Macmillan Company 1949 317 p. illus. 24 cm. \$5.50 1262

Contents: Etiology of syphilis. A general description of the course of untreated syphilis. Immunology of syphilis. Interpretation of quantitative serologic tests for syphilis (RPR, VDRL, Wassermann, etc.). and few therapy. Antibiotics in the treatment of syphilis. Principles underlying antisyphilitic treatment. The examination and treatment of the patient. The diagnosis and treatment of early infectious syphilis. Latent syphilis. Late benign syphilis. Cardiovascular syphilis. Neurosyphilis. Syphilis and pregnancy. Congenital syphilis. The public health aspects of syphilis. Index.

Note: A comparatively short presentation in which modern serologic tests and treatment with antibiotics, especially penicillin, are stressed. Many data are presented in tabular form to save space. The book is based largely on the author's experience with the rapid treatment of early syphilis at Bellevue Hospital.

YEAR BOOK OF UROLOGY

The 1951 year book of urology (November 1950-October 1951) Edited by William Wallace Scott. Chicago The Year Book Publishers Inc. 1952 383 p. illus. 20 cm. \$5.50. 1263

Contents: A month with English urologists. General considerations. The kidney. The adrenal. The ureter. The bladder. The prostate. The penis. Index. Index to authors.

Note: (11127) This annual is similar in scope and organization to the other volumes in the same series. Under each of the chapter headings listed in the contents fairly long abstracts are presented. These abstracts give the essence of several hundred pertinent articles selected from the world's medical periodicals published during the past year in the field. Some of the abstracts are supplemented by brief notes in which the editor comments on the author's findings or relates the article to other studies in the same field.

ALLERGY

EPSTEIN STEPHAN, editor

Allergic pruritus its dermatologic management. An official publication of The American College of Allergists Inc. Saint Paul Bruce Publishing Company 1952 76 p. illus. 20 cm. \$3 50 1264

Contents: Physiology and pharmacology of pruritus, by E. Rothman. Diagnosis of some allergic skin diseases, by C. L. Lown. Classification of eczema, by F. W. Lynch. The treatment of pruritus, by H. Kettner. The local treatment of itching dermatoses, by J. R. Webster. ACTH and cortisone in allergic dermatoses, by R. L. Riser. Psychosomatic aspects in eczema, by F. W. Lynch. Bacterial eczema, by E. Epstein. The role of local infection in skin diseases, by E. Epstein.

Note: The papers presented at the Symposium on Itching Dermatoses held in connection with the sixth annual congress of the American College of Allergists in April, 1950, are collected in this volume. The authors are medical practitioners and the papers are addressed both to specialists in allergy and to general practitioners. The majority of the papers include references to related literature and illustrations. Some include formulas for treatments and other medicines.

RINKEL HERBERT JOHN, AND OTHERS

Food allergy By Herbert J. Rinkel Theron G. Randolph and Michael Zeller Springfield, Ill. Charles C. Thomas 1951 492 p. illus. 24 cm. \$9.50 1265

Contents (abridged): Introduction. The clinical importance of the cyclic concept of food allergy. Etiology. Symptomatology. The specific diagnosis of food allergy. The treatment of food allergy. Specific foods as allergens. Recipes for use with therapeutic diets. Clinical case records. Appendix. Index.

Note: A monograph in which some of the emphasis is on the practical aspects of food allergy. Reviews the basic mechanisms of food allergy are adequately discussed in the earlier chapters. From chapter four onwards the book is devoted to recognition, specific diagnosis, and treatment. There are two chapters on symptomatology. Five on specific diagnosis, and two on treatment. Also, there is a long chapter of recipes. The book is primarily of interest to general practitioners of medicine and other medical practitioners who do not specialize in allergy. Literature references are supplied with each chapter.

TAUB SAMUEL JAMES

Clinical allergy a practical guide to diagnosis and treatment. Second edition revised and reset. New York Paul B. Hoeber Inc., 1951 276 p. 24 cm. \$4 50 1266

Contents: Introduction. Immunology and its relation to clinical allergy. The dynamics of allergy. Seasonal pollinosis and seasonal hay fever. Perennial hay fever. Asthma. Rheumatic diseases and treatment of asthma. Malabsorption of the skin due to allergy. Drug allergy. Miscellaneous allergic conditions. Urinary diseases and hypersensitivity. Preparation of extracts. Appendix. Index.

Note: (11177) In its second edition this useful work contains brief practical material valuable to the general medical practitioner or medical student who is unable to make detailed study of allergic diseases. The main types of allergy are described concisely with reference to symptoms, tests, diagnosis, methods of treatment. Summarized case histories are included. In this edition a number of useful additions and revisions have been made and the book is about 15 pages longer than the first edition.

TUTT, LOUIS

Clinical allergy Second edition with 54 illustrations 3 colored plates and 46 tables. Philadelphia Lea & Febiger 1949 690 p. illus. (part col d) 24 cm. \$12 00 1267

Contents (abridged): Section I. General principles. Anaphylaxis. Methods of diagnosis. Methods and principles of treatment. Section II. Etiologic types. Serum allergy. Drug allergy. Food allergy. Pollen allergy. Allergy in infants. Allergy in other laboratory. Bacterial allergy. Physical allergy. Section III. Clinical manifestations: Asthma. Al-

lergic rhinitis. Hay fever. Oculo-laryngeal allergy. Migraine. Section IV. Allergic dermatoses and allergy in relation to the specialist. Allergic dermatoses—general principles and methods of diagnosis. Urticarial dermatoses. Atopic dermatitis. Contact dermatitis. Allergy in children. Allergy in relation to the other specialties. Appendix. Bibliography. Index.

Note: An authoritative manual addressed primarily to general practitioners of medicine. The style is concise and more information is included than the number of pages might indicate. Aspects of allergy to the general practitioner such as clinical manifestations, diagnosis, and treatment are emphasized. However there are adequate discussions of general principles and etiology. Typical lesions are presented by synopses (acute). A variety of medical information on laboratory methods, preparation of extracts, rules for testing, home-hold and food allergy, and special diets is included in the appendix.

MALIGNANT GROWTH

AMERICAN CANCER SOCIETY

Manual of tumor nomenclature and coding. Prepared by Subcommittee of the Statistics Committee American Cancer Society New York American Cancer Society 1951 119 p. 29 cm. \$2 50 1268

Contents: Introduction. Histologic classification of neoplasms. Nomenclature code. Numeric list. Alphabetic index. Appendix.

Note: The histologic and nomenclature codes presented in this work are intended to be used with the site codes in either the American Medical Association's Standard Nomenclature of Diseases or the World Health Organization's International Statistical Classification of Diseases, Injuries and Causes of Death. The manual is being used for use in the record keeping, tumor registries, and in statistical presentation of tumor data.

AMERICAN CANCER SOCIETY

Mouth cancer and the dentist, by Hayes Martin. New York American Cancer Society 1949 63 p. illus. (part col d) 23 cm. 1269

Contents (abridged): Symptoms of mouth cancer. Early diagnosis of mouth cancer. Differential diagnosis of mouth cancer. Microbiological findings sometimes confused with mouth cancer. Causative factors of mouth cancer. What the dentist can do to combat mouth cancer. Current methods of treatment of mouth cancer. Effects of radiation therapy on mouth structures. Indications for the extraction of teeth either before or after treatment of mouth cancer. Prognosis of mouth cancer. Summary.

— Cancer of the lung, by Richard H. Overholt and Sherman W. Atwell. New York American Cancer Society, 1950 51 p. illus. 23 cm. 1270

Contents: Historical facts. Introduction. Classification of cancer. Differential diagnosis. Complete diagnosis by symptoms. Cytological examination. Bronchoscopy. Expiratory thermography. Multiple responsibility and where it rests. The first doctor consulted. The doctor who holds the shadow. The therapeutic program. What has been purposefully omitted. Conclusions.

— Carcinoma of the breast, by C. D. Haagensen. New York American Cancer Society 1950 120 p. illus. 23 cm. 1271

Contents: Frequent carcinoma of the breast. Chapter I. The problem of diagnosis. Chapter II. Treatment of carcinoma of the breast. Summary. References.

— Cancer of the esophagus and the stomach, by Owen H. Wangenstein. New York American Cancer Society 1951 112 p. illus. 23 cm. 1272

Contents: Cancer of the esophagus and the stomach. Cancer of the esophagus. Cancer of the stomach. The future. References.

— Value of early diagnosis of malignant lymphomas and leukemias, by Lloyd F.

Craver New York American Cancer Society 1952 47 p. illus. 23 cm. 1273

Contents: Value of early diagnosis of malignant lymphomas and leukemias. Chapter I, The leukemias. Chapter II, The malignant lymphomas. References.

Note: A series of radiobiologic pamphlets which are addressed to dentists and medical practitioners who are not specialists in cancer but are asked the first to see patients with cancer. The pamphlets are on recognition and diagnosis. Some information is included on prognosis and therapy. The series is very well illustrated.

CANTRELL, SIDNEY THEODORE

Radiation therapy in the management of cancer of the uterine cervix. Springfield Ill. Charles C Thomas, 1950 196 p. illus. 22 cm. (The American lecture series. No. 55) A monograph in American lectures in radiation therapy edited by Milton Friedman) \$5.50 1274

Contents: Introduction. Clinical considerations. The pathology and spread of cancer of the cervix. The complications of cervical cancer. Staging of cancer of the cervix. Stages. Radiation therapy. Cancer of the cervical os. Cancer of the cervix in pregnancy. The position of surgery in the management of carcinoma of the cervix. Appendices. The staging of cancer of the uterine cervix. Dosimetry in intracavitary radium therapy. References. Index.

Note: This monograph serves dual purpose in reviewing these features of cancer of the cervix manageable by roentgen and radium therapy and in presenting history of the development of radium therapy based on the concepts as evolved from the Swedish and French schools of radiotherapy. Some emphasis is placed on X-ray therapy and the technique of application as well as on problems of dosimetry. Excellent diagrams and X-ray photographs and summary of worldwide results of radium treatment made this volume a useful reference work. The author is Director of the Tumor Institute of the Swedish Hospital in Seattle, Washington.

COLEY BRADLEY LANCASTER

Neoplasms of bone and related conditions their etiology pathogenesis, diagnosis and treatment. With 622 illustrations and 53 tables. New York Paul B Hoeber Inc. 1949 765 p. illus. 26 cm. \$17.50 1275

Contents: (abridged) Section one, Classification, etiology and diagnosis. Diagnostic survey in suspected cases of bone tumor. Differential diagnosis. Rind chemotherapy in the diagnosis of diseases of bone, by H. Q. Woodard. Section two, Benign tumors and tumorlike lesions of bone. Osteoma. Hemangioma. Fibroma of bone. Chondroma. Benign chondrosarcoma. Osteosarcoma. Hematoma of bone. Fibrous dysplasia of bone. Giant cell tumor. Adenomatous. Chondroma. Sarcoma at late development in benign lesions of bone. Section three, Primary malignant tumors of bone. Section four, Tumors involving bone by extension. Section five, Metastatic tumors involving bone. Section six, Therapy of bone in special locations. Tumors of the skull—base—thoracic wall—pelvic bone—vertebral column—hands and feet. Tumors of bone in childhood. Section seven, Surgical treatment. Section eight, Radiation therapy. Section nine, Constitutional therapy. Effects of leucocyte products on tumors of bone. Mechanical treatment of tumors of bone. Treatment with radioactive isotopes. Section ten, Lesions of the skeletal system that may simulate neoplasms of bone. Section eleven, Miscellaneous. Pathologic fracture. Mechanical aspects of tumors in tumors of bone. The experimental production of bone tumors. Index.

Note: A comprehensive work written from the clinical viewpoint. The 74 chapters cover all facets of the subject which are pertinent to diagnosis, prognosis, and treatment. Most of the conditions discussed are shown also in the illustrations. An unusual feature is the inclusion of more than 50 tables in which data from case histories are summarized. The book is based primarily on the author's extensive experience in the Bone Tumor Department of Memorial Hospital for Cancer and Allied Diseases in New York City. However, here he has also searched the literature and has incorporated the pertinent results of other workers in the field. Each of the sections concludes with bibliography.

CONFERENCE ON CANCER DIAGNOSTIC TESTS

Proceedings of the first Conference on Cancer Diagnostic Tests, sponsored by the National Advisory Cancer Council, 1950 Federal Security Agency Public Health Service National Institutes of Health, National Cancer Institute. Washington, D. C. Government Printing Office, 1951 91 p. illus. 23 cm. (United States. Public Health Service. Publication no. 96) Paper \$0.30. 1276

Note: A collection of the papers and discussions, together with bibliographical references, that constituted the proceedings of a conference held in Chicago on October 14, 1950. The conference was divided into three successive sessions, at each of which the papers were the same; each speaker followed by three or four members of the panel he spoke more briefly. The three sessions covered the three fields in which the chief diagnostic test work had been done, namely blood proteins, enzymes, and immunology. The work is of interest primarily to medical clinicians and to biochemists and other scientists engaged in research in the field.

CORSCADEN, JAMES ALBERT

Gynecologic cancer Baltimore The Williams & Wilkins Company 1951 368 p. illus. 23 cm. \$6.00. 1277

Contents: Introduction. Diagnosis. Cancer of the vulva. Cancer of the vagina. Cancer of the cervix. Cancer of the corpus uteri. Neoplastic diseases of the ovaries. Cancer of the fallopian tube. Cancer of the ovary. The sarcomas. Management of the cancer patient. The history of cancer. Index.

Note: The author stresses the importance of early detection, shows that the cause is cause of gynecologic cancer can today be more than detected without the discovery of any new principle or technique in diagnosis or therapy and puts the responsibility upon the medical profession. The work is comprehensive illustrated material for other general practitioners or specialist. The bibliographical references at the ends of the chapters are both extensive and up to date.

CUNEO, HENRY M AND CARL W RAND

Brain tumors of childhood. Springfield Ill. Charles C Thomas, 1952 224 p. illus. 23 cm. (American lecture series. Publication no. 104) A monograph in American lectures in surgery) \$5.75 1278

Contents: Astrocytoma. Medulloblastoma. Craniopharyngioma. Ependymoma. Pilocystoma. Papilloma of the choroid plexus (Glioblastoma (astrocytoma) multiforme. Meningeoma. Glioma of the optic nerve. Metastatic and malignant invasive tumors. Endothelial granulations of bone, sarcomatous and radio-resistant. Infectious granuloma. General considerations. Index.

Note: A monograph based primarily on a decade of experience in the Children's Hospital in Los Angeles during which 73 verified cases of brain tumor and/or granulomatous lesions were encountered and recorded in the literature. The causes of tumors stated in the table of contents above are discussed against background of actual case histories. The 60 illustrations are largely drawn from the same cases. The book is of interest to tumor specialists and pediatricians.

DYER, HELEN MARIE

An index of tumor chemotherapy A tabulated compilation of data from the literature on clinical and experimental investigations. Washington D. C. Government Printing Office, 1950 329 p. 23 x 29 cm. (United States. Federal Security Agency Public Health Service) Paper 1279

Contents. Historical résumé. Selection of material for the Index. Classified Index of therapeutic data: Inorganic compounds. Metal- and halogen-containing organic compounds. Organic sulfur compounds and sulfur derivatives of miscellaneous organic compounds. Organic compounds. Aliphatic compounds. Aromatic compounds. Macrocyclic compounds. Dyes. Lipids. Mustard gas and nitrogen mustard. Miscellaneous oils. Proteins and protein derivatives. Sulfonamides and related substances. Vitamins, provitamins and vitamin antagonists. Purines. Radioactive agents. Miscellaneous materials. Coagulants and anticoagulants of blood. Laxatives. Hormones. Plant products. Vases. Alphabetical Index of agents. References.

Note. A comprehensive survey of the literature on the treatment of tumors by chemical methods is presented in this Index for investigators in cancer research. The work consists of four parts: (1) 13 pages of introductory text, (2) 144 pages of the classified tabular Index of chemotherapeutic tests, comprising 3031 numbered items, (3) 53 pages of alphabetical Index, and (4) 56 pages containing 2115 bibliographical citations of pertinent and other sources for the indexed items. Tabulated for each of these 3031 reported experiments are the following: its number, the name of the chemical agent, the type of tumor, the species (whether man, dog, rabbit, rat, mouse, etc.) if known, the number of hosts involved in the experiment, the dosage, the number and period of treatments, the route (whether oral, local, injected, subcutaneous, inhaled, etc.) of the treatment, the effect (or effects) observed, the reference number in the bibliographical list, and the date of the report.

ELLER, JOSEPH JORDAN AND WILLIAM DOUGLAS ELLER

Tumors of the skin benign and malignant. Second edition thoroughly revised and enlarged 550 illustrations and 3 colored plates. Philadelphia Lea & Febiger 1951 697 p. illus. (part col'd) 24 cm \$15.00 1280

Contents. General considerations. Benign tumors of the skin. Tumors of connective tissue origin. Tumors originating from muscle or nerve tissue. Nervi and other developmental disturbances of the skin. Tumors of infectious origin. Proliferative conditions of the skin. Malignant tumors of the skin. Carcinomas of the skin. Melanocytic melanomas. Sarcomas. Lymphomas (leukemias). Cutaneous neurogic and plastic neoplasms of skin (tumors). Radioactive physical. Author's Index. Subject Index.

Note (1946) Skin tumors and tumors of other tissues, such as those of the mouth, which are often first seen by the dermatologist are covered in this book. The treatment is comprehensive with emphasis on diagnosis and treatment. The book is based both on the author's own extensive experience and on the literature. A considerable fraction of the illustrations are photographs selected from wide range of cases. Extensive bibliographies are included. The revisions and additions made to the text, illustrations, and bibliographies for this edition are substantial.

FARBER SEYMOUR MORGAN AND OTHERS

Cytologic diagnosis of lung cancer. By Seymour M. Farber Milton Rosenthal, Edwin F. Alston Mortimer A. Benloff and Allen K. McGrath, Jr Springfield Illinois Charles C. Thomas 1950 59 p illus 29 cm. \$7.50 1281

Contents. Introduction. Evolution of cytologic techniques. Techniques. Etiology of the respiratory tract in normal and benign pathologic conditions. Pathology of bronchogenic carcinoma. Technical advantages for the study of cell detail with wet smears. Identification of non-malignant cells. Cytologic criteria of malignancy. Clinical material and data. Clinical and pathologic results. Conclusions. Bibliography. Color plates.

Note. An authoritative work on the diagnosis of lung cancer by examination of sputum and bronchial washings, technique which affords much earlier diagnosis than is possible with other diagnostic procedures. The work is based on a study of 1126 cases. Cytologic diagnosis was found to be fully as accurate as bronchoscopy. However, the authors point out, it is a sensitive method that is reliable only after the cytologist has gained considerable experience with it. A bibliography lists 58 references. There are 80 reproductions in color of microphotographs of tumors and cells.

GATES, OLIVE, AND SHIELDS WARREN

A handbook for the diagnosis of cancer of the uterus by the use of vaginal smears. With a foreword by George N. Papanicolaou. Third edition. Cambridge, Mass. Harvard University Press 1950 214 p illus. 28 cm. Paper \$5.50 1282

Contents. General considerations relating to the vaginal smear method. Technique. Morphology of genital tract. Normal cytology of the vaginal smear. Pathology of cancer of the uterus. Characteristics of malignant cells in smears. Diagnosis of smears taken following radiation therapy. Sources of error in diagnosis. General slide is one of the vaginal smear method. Current appraisal of the vaginal smear method. The vaginal smear in relation to carcinoma in situ and early carcinoma. References. Index.

Note (1124) A standard laboratory guide written by both the practicing pathologist and the laboratory technician. The material is presented as to be of particular value to those who must resort to self-training in learning this technique for detecting cancer in its incipient form. The third edition reflects further experience with the technique and some extension of its application. Changes have been made in the text of all but two of the chapters. The slide interest in the technique is reflected in the 70 references which have been added to the bibliography. 18 illustrations have been added.

GESCHICKTER CHARLES FREEMAN, AND MURRAY M. COPELAND

Tumors of bone. Third edition. 642 illustrations. Philadelphia J. B. Lippincott Company 1949 810 p illus. 26 cm. \$17.50 1283

Contents (abridged). Part One, Embryogenesis of bone and its relation to skeletal tumors. Part Two, Tumors of osseous tissue. Osteosarcomas. Multiple myeloma or hematopoietic determining osteodysplasia. Chondrosarcoma or chondrocytoma. Fibrosarcoma or fibrosarcoma. Primary chondrosarcoma—secondary chondrosarcoma. Chondroblastoma (tumor); benign and malignant. Osteomyeloma. Histologic variants of the bone cyst and the aneurysm-like bone cyst (von Recklinghausen's disease). Fibrosarcoma. Benign giant-cell tumor—osteoclastoma. Microscopic. Numerous cases of giant-cell cancer. Extraosseous giant-cell tumor. Multiple Part Three, Tumors of nonosseous origin: Ewing's sarcoma. Multiple myeloma. Skeletal metastases arising from carcinoma and sarcoma. Osseous changes in disease of the bone marrow and lymphoid tissue. Fibrosarcoma of the bone and bone involvement by direct extension of sarcoma of the neighboring soft parts. Part Four, Tumors of specialized skeletal structures: Primary tumors of the cranial bones. Tumors of the jaw. Tumors of tendon sheaths, joints and ligaments. Tumors of the spine. Part Five, Differential diagnosis: Differential diagnosis. Juvenile lesions of bone. Endosteosarcoma and osteosarcoma of bone. Index.

Note. A carefully prepared reference book for the histopathologist, the pathologist, the surgeon, and the practitioner. The names have been uniformly presented, routine observations, microscopic features, clinical course and diagnosis, prognosis, and treatment are discussed. The text, referring to an extensive international literature, is accompanied by excellent illustrations. More than 600 reports are condensed in tabular form. The third edition, published 11 years after the second, has included a number of new chapters, such as those devoted to Ewing's sarcoma, giant cell tumor, tumors of the spine, metastatic changes in bone, and rare diseases of bone. Several other chapters have been entirely rewritten. There are also many new illustrations.

HARTWELL JONATHAN LUTTON

Survey of compounds which have been tested for carcinogenic activity. Second edition. Washington D. C. Government Printing Office, 1951 583 p. illus. 24 cm. (United States Federal Security Agency Public Health Service. Publication no. 149) \$4.25 1284

Contents. Introduction. Tables review. Diagnostic compounds. Organic compounds. Aliphatic. Aromatic. Nucleic. Toxic. Tetracycline. Pterocyclic. Benzocyclic and higher. Amino compounds. Steroids. Heterocyclic compounds. Unclassified. Alkaloids. Sub-

surgery. Compound index. Roentgen index. Site-of-application index. Species index. Tumor-sites index. Vehicle index.

Note: This book lists in systematic fashion 1239 chemical compounds which have been tested on animals, chiefly mice and rats, for carcinogenic activity as reported in the literature of the subject through 1947. Only chemical compounds are listed. Mixtures such as tars, irradiated steroids and articles of diet were excluded. Also excluded were reports where the observations extended for period of less than one month (from the first administration). Tabulated for each compound are the following: references to the literature by author and date, animal and number of animals, strain or type of animal, sex, preparation and dose, site and route, number of animals with tumors and the type of tumor if any survived, number, and duration of the experiment. The first edition of the survey was published in 1941. The second edition included the tests that were listed in the first edition and about as many more, the results of which were published from 1940 to 1947.

MULLIGAN RICHARD MICHAEL

Syllabus of human neoplasms. With 230 illustrations. Philadelphia Lea & Febiger 1951 317 p. illus. 26 cm. \$7.50 1285

Contents: Introduction. Epithelial neoplasms of skin and appendages. Neoplasms of mesenchymal origin. Neoplasms of neuroectodermal origin. Neoplasms of the alimentary tract. Neoplasms of the respiratory tract. Neoplasms of the urinary tract. Neoplasms of male genitalia. Neoplasms of female genitalia. Neoplasms of endocrine glands. Miscellaneous neoplasms. Supplement. Index.

Note: An introductory grade addressed to medical students, laymen, and graduate practitioners of medicine. Pathological and clinical features of the common neoplasms are considered. Data are included on incidence by sex, age, and race, and on survival rates. The illustrations are reproductions of microphotographs. Literature references are included in the chapters. The author is Professor of Pathology in the School of Medicine of the University of Colorado.

MURPHY DOUGLAS POWER

Heredity in uterine cancer. Cambridge, Mass. Published for The Commonwealth Fund by Harvard University Press 1952 128 p. 22 cm. \$2.50 1286

Contents: (abridged) Section I, The Hereditary Study by Borchardt of familial incidence of uterine cancer. Other reports of familial occurrence of cancer and related diseases. Discussion of the literature. Section II, Materials and methods: Purpose of investigation. First and main studies. Plan of investigation. Cancer patients. Control patients. Sources of information for locating individuals. Family visiting. Completion of family record. Coding of histories. Section III, The results: The tables. Characteristics of probands. Characteristics of relatives. Section IV, Discussion: Selection of the families. Methods employed in collecting data. Results. Conclusions. References. Index.

Note: A report of a study conducted to find out whether dispositions toward cancer is inherited. Data were collected on the occurrence of cancer among the relatives of 301 women who were suffering from uterine cancer and from the relatives of 313 control probands, total of 6,445 individuals. The methods of study are fully described and the results are analyzed in a series of more than 50 tables. Among the conclusions is "The evidence supports the conclusion that heredity factors affect the frequency with which cancer appears in the uterus. The author is associated with the Gynecologic Research Institute of Gynecologic Research of the University of Pennsylvania.

NATIONAL CANCER CONFERENCE

Proceedings of the first National Cancer Conference. American Cancer Society and The National Cancer Institute of the U. S. Public Health Service, Federal Security Agency 1949 310 p. illus. 23 cm. 1287

Contents: (abridged) Outline of the conference its background and its purposes, by C. E. Casper. Part one, Biological phenomena of growth: Differentiation of strains of tumor cells under laboratory, by R. Wight. Metastasis in transplantable tumors, by G. D. Snell. Phenomena of the metastatic apparatus in natural animal and transplant tumor cells, by J. J. Minnie. Chemotherapy, chemical stimulation, and inhibition of normal and abnormal plant growth, by A. F. Johnston. The problem of cellular differentiation, by F. W. Cole. Genetic evidence of vertebrate individuality, by M. R. Aron. Anatomy and growth phenomena, by C. E. Martin. Factors influencing

endometrial growth in monkeys, *Monotus masticus*, by F. L. Howe. Mode of action of the nitrogen mustard—a new working hypothesis and its possible relation to carcinogenesis, by A. Haddad. Part two, Principles and procedures: The cancer problem, by E. C. D. Hickman. Fundamental scientific research and its application, by R. Cohen. Part three, Personal discussion: Tumors of the reproductive tract and breast, including embryology. The lymphoblastoma. Head-and-neck tumors. Lung cancer. Soft-part tumors. Bone tumors. Tumors of the nervous system. Epidemiology including environmental and occupational cancer. Presidential address: Techniques as they relate to cancer. Services and facilities. Cancer registration. Administration of grants in cancer. Index.

Note: The conference whose proceedings are published in this work was planned effect to foster communication of ideas among various groups of researchers, clinicians, and others concerned with the cancer problem. Five formal papers and two discussions, whose titles and authors are given above, were presented on the first day of the conference. The rest of the proceedings consisted of panel discussions. In the published volume the summaries of the panel discussions occupy three-fifths of the space. The work is convenient and readable summary of the fundamentals of cancer knowledge with some emphasis on cancer research as of 1949.

NETTLESHIP ANDERSON

Basic principles of cancer practice a book on diagnosis, prognosis, and treatment of human neoplasms for the general practitioner and medical student. Baltimore The Williams & Wilkins Company 1952 398 p. illus. 24 cm. \$7.00 1288

Contents: (abridged) The status of present day cancer practice. Clinical behavior of neoplasms. Methods of cancer diagnosis. The clinical pathology of neoplasms. Local and systemic effects of cancer. Treatment of cancer. Neoplasms of children. Neoplasms of the skin. Neoplasms of the gastro-intestinal tract, liver, and pancreas. Neoplasms of the breast. Neoplasms of the female genital system. Neoplasms of the male genital-urinary system, urinary bladder, and prostate. Neoplasms of blood forming organs. Neoplasms of the lung, nasopharynx, larynx, trachea, and bronchi. Neoplasms of bone, muscle, and connective tissue. Neoplasms of the central nervous system. Neoplasms of the endocrine system. A review of the biochemistry of cancer. Relation of occupation and trauma to cancer. Index.

Note: The essential purpose of this book is to make available to advanced medical college students and general practitioners of medicine the highlights of the contemporary status of cancer diagnosis and treatment. The physician is advised to consult on general or specific points such as the pathological behavior of tumors and also on very specific topics such as the correct status of hormone therapy. No subject is covered exhaustively. Good references are included for those physicians who wish to read further. There are 106 figures. The purpose of the book is to alert the general physician to the detection of cancer and to inform him about therapies and about the progress of various types. The author is Professor of Pathology in the University of Arkansas.

RANKIN FRED WHARTON AND A. STEPHENS GRAHAM

Cancer of the colon and rectum its diagnosis and treatment. Second edition. Springfield, Illinois Charles C Thomas, 1950. 427 p. illus. 24 cm. \$8.50 1289

Contents: Part I, General considerations: Anatomy and physiology. Incidence, occurrence and etiology. Pathology. Symptoms and diagnosis. Differential diagnosis. Part II, Treatment. Operability. Resectability and prognosis. Choice of operation. Radiotherapy of carcinoma of the rectum. Operative mortality and morbidity. Preoperative and postoperative treatment. Part III, Operative procedures. Historical considerations. Procedures for oversteering structures. Procedures for resection of lesions of the colon. Procedures for resection of lesions of the rectosigmoid, rectum, and anus. Palliative and miscellaneous procedures. Author index. Subject index.

Note: A treatise for graduate physicians and surgeons. The importance of early diagnosis is emphasized and the authors describe the various techniques of diagnosis and differential diagnosis early. About half of the book is devoted to description of the surgical techniques and related matters of concern to the surgeon. The rest is on the author's own extensive experience and also on the experience of others as reported in the literature. A wide range of data on such data as frequency of symptoms, accuracy of diagnosis

and mortality rates is presented in more than 100 tables. Extensive bibliography is included. The first edition appeared in 1939. Much important material has been added in this edition.

REES, ALGERNON B

Tumors of the eye. With 511 illustrations, 122 in full color. New York: Paul B Hoeber, Inc., 1951. 574 p. illus. (part col'd) 27 cm. \$20.00 1290

Contents: Epithelial tumors of the lid, conjunctiva, and cornea. Epithelial tumors of the iris, Retinoblastoma, Glioma, Meningeoma. Tumors of the peripheral nerve. Pigmented tumors. Angiosarcoma, tumor. Leukosarcoma. Rhabdomyosarcoma, myxosarcoma, and granular cell sarcoma. Fibroma, Mesenchymoma, myxoma, and sarcoma. Ret and cornea. Tumors—classification. Lymphomas, tumors, myxoma, and chondroma. Mixed tumors. Epithelioma, neuro-epithelioma, tumor, and adenoma of the lacrimal gland. Dermaloid cyst, dermoid tumor, dermoids, and teratoma. Neoplastic metastases to the eye and orbit. Orbital neoplasms and lesions resembling them. Index.

Note. A comprehensive presentation of the accumulated knowledge of tumors of the eye and its adnexa. The main emphasis is on the clinical aspects of the subject, but many of the illustrations of neoplastic growths are potentially of interest also to specialists in pathology and research. Unusual and unique tumors are described as well as those of more common occurrence. Radiation therapy and surgery are both covered. The author has surveyed the literature and has included extensive bibliographies to which statements in his text are keyed. However much of the material in the book has been drawn from his own experience at the Institute of Ophthalmology in Presbyterian Hospital and other institutions in New York City.

SACHS, ERNEST

Diagnosis and treatment of brain tumors and care of the neurosurgical patient. Second edition. 348 illustrations and ten color plates. St. Louis: The C. V Mosby Company 1949. 552 p. illus. (part col'd) 25 cm. \$16.00 1291

Contents: Surgical anatomy and physiology. Methods of examination. The surgical pathology of brain tumors. General symptoms and signs of increased intracranial pressure. Cerebral signs, local signs and symptoms. Tumors of cerebellum, pons, and medulla. Diseases of the pituitary gland. Differential diagnosis between brain tumors and other conditions. Anesthesia. Operative technique and general discussion of neurosurgical methods. Craniotomy with the operative procedures that were employed. Focal and peripheral nerve operations. Closure of wounds. Postoperative care. Review of neurosurgical surgery and progress in the future. Index.

Note. (1214) In this work the author's *Diagnosis and treatment of brain tumors*, St. Louis, 1931 and his *The care of the neurosurgical patient before, during and after operation*, St. Louis, 1945, have been integrated and at the same time revised and expanded. The new work—which apparently takes its edition numbering from *Diagnosis and treatment of brain tumors*—is an inclusive treatise suitable for study by advanced students in medical colleges who are preparing for the specialty of neurology and young neurosurgeons. Operative techniques are described explicitly and are shown in the illustrations, which include a number of roentgenograms. A considerable number of case histories is included. Selected references to the related literature have been supplied as footnotes.

VINCENT MEMORIAL HOSPITAL

The cytologic diagnosis of cancer. By the staff of the Vincent Memorial Laboratory of the Vincent Memorial Hospital, a gynecologic service affiliated with the Massachusetts General Hospital, Boston, Massachusetts. The Department of Gynecology, Harvard Medical School. Published under the sponsorship of the American Cancer Society Philadelphia. W B Saunders Company 1950. 229 p. illus. (part col'd) 25 cm. \$7.00 1292

Contents: Normal cells from cervical and vaginal squamous epithelium. Normal cells from columnar epithelium of endocervix and endometrium. Cells not originating from epithelium of female genital tract. Squamous cell carcinoma of the cervix. Adenocarcinoma of the

endometrium. Adenocarcinoma of uterus. Other tumors of the female genital tract. Radiation changes in normal and malignant cells of the vaginal epithelium. Cells of squamous epithelium of vulva. Cells of non-epithelial origin in speculum. Squamous cell carcinoma of the lung. Other types of pulmonary carcinoma. Mucous columnar cells from gastric mucosa. Carcinoma of the stomach. Mucous cells of the urinary tract. Carcinoma of the multi-epithelial tract. Mucous cells of placenta and peritoneal fluid. Malignant cells in pleural and peritoneal fluid. Testicle. Appendix. Bibliography. Index.

Note. A reference and study guide for physicians, cytologists, and other persons who are concerned with the interpretation of smears taken in the diagnosis of not only genital cancer but cancer of the lung and respiratory tract, cancer of the stomach, etc. A considerable part of the space has been devoted to reproduction of microphotographs, some of which are reproduced in color. Specific discussions of the microphotographs are provided in each chapter by background discussion of the histology of the tissue that forms the subject of the particular chapter. Special emphasis is given to the interpretation of difficult smears and to the correct identification of cells that are deviations from normal forms. The book is based on very extensive experience with cytologic diagnosis at the Vincent Memorial Hospital Laboratory.

WARD, GRANT EREN, and JAMES W HEN-DRICK

Diagnosis & treatment of tumors of the head and neck (not including the central nervous system) Baltimore: The Williams & Wilkins Company, 1950. 832 p. illus. 26 cm. \$15.00 1293

Contents: Introduction. The early development of the head and neck. Benign tumors and premalignant lesions of the head and neck. Malignant neoplasms of the skin of the head and neck. Cancer of the lip. Benign tumors and premalignant lesions of the oral cavity. Malignant tumors of the oral cavity. Cancer of the tongue and floor of the mouth. Tumors of the larynx. Salivary gland tumors. Tumors of the thyroid, parathyroid and lymphatic glands. Tumors of the paranasal sinuses and nasal mucous membrane. Tumors of the eye and orbit. Tumors of the ear. Tumors of the larynx. Tumors primary in the neck. Tumors primary in the lymph nodes of the head and neck. Malignant tumors of the neck. Tumors of the skull. Bibliography. Index.

Note. A half-scale treatment of clinical aspects designed both for general practitioners and specialists. The reader will find extensive general clinics at the Johns Hopkins Hospital and the University of Maryland Hospital, and the reader will find associated with him at both institutions. The book is based mainly on the extensive experience of the authors, but information has been included from as published literature. Also some sections for treatment of the most malignant tumors of the head and neck, have been written especially for this book by other specialists. The work is readily illustrated and there are extensive references lists.

PEDIATRICS

ADVANCES IN PEDIATRICS. Volume v. Editor S. Z. Levine, associate editors, Allan M. Butler, Margaret Dann, L. Emmet Holt, Jr., and A. Ashley Weech. Chicago: The Year Book Publishers, Inc., 1952. 272 p. illus. 24 cm. \$7.00 1294

Contents: Advances in the treatment of bacterial meningitis, by H. E. Alexander. The nephrotic syndrome in children, by R. L. Barrett and others. The relation of vitamin K deficiency to hemorrhagic disease of the newborn, by H. Dunn and others. Anaplastic carcinoma in children, by J. Lind and others. New leading problems in infants and children—some new and some leading problems—diagnostic and therapeutic techniques, by C. E. Smith and others. BCG vaccination, by A. J. Williams. Subject Index. Author Index.

Note. (1229) As in the earlier volumes of this series, each of the chapters or papers is a monographic survey of recent literature and discusses in specific form of pediatrics. An extensive list of references is included to which statements in the paper are keyed. The editorial plan is thus different from series in which the significant literature of a single year is surveyed. The series is addressed to general practitioners of medicine.

THE AMERICAN ACADEMY OF PEDIATRICS. COMMITTEE FOR THE STUDY OF CHILD HEALTH SERVICES

Child health services and pediatric education. Report of the Committee for the Study of Child Health Services of the American Academy of Pediatrics with the cooperation of the United States Public Health Service and the United States Children's Bureau. New York: The Commonwealth Fund, 1949. 270 p. illus. 23 cm. \$3.50 1295

Contents (abridged). Part I, Child health services: The study of child health services. Total volume of child health services. Private practice. Hospital. Community health services. Birth's supervision for the preschool child. Part II, A. Undergraduate education. Part II, B, Graduate education. Part II, C, Hospital approved for pediatric training. General hospital training. Outpatient training. Ward rounds and conferences. Part III, General summary. References. Appendix. Tables referring to pediatric education. List of 70 approved medical schools in the United States, 1944-1947. Staff of pediatric departments in each of three groups of medical schools. Clinical facilities for pediatric teaching in each of three groups of medical schools. Content of pediatric course in each of three groups of medical schools. Pediatric department and medical school budgets in each of three groups of medical schools.

Note. This volume reports the results of a three-year study of the effectiveness of child health services in the United States. The study was conducted by the Committee for the Study of Child Health Services. The Committee was organized to collect the facts and report them. The Committee did not attempt to formulate recommendations based upon the findings. The Committee's appointment in this report Child health services and pediatric education—methodology and tabulations on services. New York: Commonwealth Fund, 1949. 30 p. \$3.50 containing statistical tables and survey of the methods pursued in gathering the data.

BRIDGE, EDWARD M.

Epilepsy and convulsive disorders in children. New York: McGraw Hill Book Company Inc. 1949. 670 p. illus. 24 cm. (McGraw Hill series in health science. Amos Christie, consulting editor.) \$10.50. 1296

Contents. Part one: Introduction and general concept. The hereditary factor. The factor of brain injury. Physiological factors. Personality factors. Environmental factors. The total background of epilepsy. Part two: The cause of epilepsy. Major causes. Minor causes. General management. Dietary treatment. Psychotherapy. Outcome. Community aspects and prevention. Part three: Diagnostic procedures. Appendix: Outline for clinical study. Evaluation of etiologic factors. Recording tests of severity and intelligence. Statistical recording of data. Care of patients. Prognosis and treatment in chronic case. Dehydration of infants as blood. Mental data. Etiologic data. Dehydration data. Creative activities for children with epilepsy. Occurrences for persons with epilepsy. Alphabetical list of references. Index.

Note. An important work which is based principally on material accumulated at the Epilepsy Clinic organized in 1925 at Johns Hopkins Hospital where a group of pediatricians, neurologists, neurosurgeons, social workers, laboratory technicians, and representatives from community agencies joined forces to study the various aspects of the problem. The clinical problems of diagnosis and prognosis, the etiological and psychological aspects, and details of practical care of affected children are considered. Each chapter opens with a pictorial table of contents which, with the author's comment. References, are aids in consulting the material. The style is technical, and the book is intended for physicians, social workers, and others with professional training rather than lay readers. A 21-page bibliography is appended.

CAMPBELL MEREDITH

Clinical pediatric urology. With a section on nephritis and allied diseases in infancy and childhood by Elvira Goettach and John D. Lytle. Philadelphia: W. B. Saunders

Company 1951. 1113 p. illus. 26 cm. \$18.00

1297

Contents. Methods of examination and diagnosis. Urinary obstruction. Embryology and anatomy of the urogenital tract. Urinary infections. The male genital tract and the female genital tract. Urogenital injuries. Urinary calculus disease. Tumors of the urogenital tract. The abnormal. Nephrocalcinosis. Nephrocalcinosis. Urologic surgery. Operative procedures. Nephritis and allied diseases in infancy and childhood. Index.

Note. A comprehensive treatise based both on the author's own experience in the study of infants and children and on the pertinent literature. Although much information that is necessary to the adult urologist as well as that necessary to the pediatric urologist is included, the book's special value lies in its full discussion of the special diagnostic and operative techniques required in urologic practice with children. The long chapter (165 pages) on embryology and anatomy is of special interest to pediatricians and to urologists with pediatric practice. There are 343 figures, considerable number of which contain reproductions of more than one drawing or photograph. Long bibliography accompanying all of the chapters. The author is Professor of Urology in New York University Post-Graduate Medical School.

CHODOT, ROBERT

Pediatric allergy. New York: McGraw Hill Book Company Inc. 1951. 284 p. illus. 21 cm. \$6.00 1298

Contents. Forms of hypersensitivity. Diagnostic procedures. Asthma. Food allergy. Vasomotor rhinitis. Hay fever. Pollenosis. Anaphylaxis and shock. Allergic diseases. Serum reactions and drug allergy. Allergy of the eye. Allergic physical allergy. ACTH, cortisone, and the future. Anaphylaxis. Anaphylaxis and human sensitivity. Common allergens. A typical allergic test table. Cough, fever.

Note. A relatively brief text and manual. The author has made an attempt to include something on every phase of the subject as to diagnosis, wide range of cases. Instead he has presented a capsule, as the point survey of topics most useful to the pediatrician and the general practitioner who is not a specialist in allergy. Selected literature references are included in each chapter. Synopsis of 14 cases are given in an appendix. The author is Director of the Pediatric Allergy Clinic of New York University-Bellevue Center.

GRUENLICH WILLIAM WALTER, AND S. IDELL PYLE

Radiographic atlas of skeletal development of the hand and wrist. Based on the Bruhl Foundation study of human growth and development, initiated by T. Wingate Todd. Stanford, California: Stanford University Press, 1950. 190 p. illus. 31 cm. \$10.00 1299

Contents (abridged). The rationale and technique of assessing the developmental state of children from investigation of the hand and wrist. The need for dependable methods of assessing the physical developmental status of children. The history of height-weight-age tables for determining developmental status. The relationship of the developmental status of the skeleton to that of the reproductive system. The relationship of the developmental status of the reproductive system to the degree of primary body maturity. Skeletal status and general body maturity. Some effects of illness on the developing skeleton. The value and the limitations of the X-ray film of the hand in assessing the physical developmental status of children. New standards were selected. Mainly for children. How to proceed in assessing. Small Atlas. A graphic method of recording skeletal measurements. What constitutes significant deviation from normal? Male standards. Female standards. Maturity indices of individual bones and epiphyses.

Note. A reference work based upon an original study carried on from 1931 through 1942 on a group of children without gross physical or mental defects. "The children were examined at three-month intervals during the first post-natal year at six-month intervals from 12 months to five years of age, and annually thereafter. At each examination the child was measured and weighed, X-ray films were made of both shoulders, elbow, hand, hip, knee, and foot; psychometric and other psychological tests were administered; and health history covering the period since the previous examination was obtained from the parents and the family physician. On the basis of the study the standards and the maturity indicators to which about three-fourths of the space in this volume is devoted—were constructed. Each standard is in the form of radiograph with accompanying legend. The maturity indicators are presented in the form of diagnostic sketches of bones and epiphyses. In the

utors. Fifth edition with 426 illustrations, 19 in color Philadelphia W B Saunders Company 1950 1658 p. illus. 26 cm. \$13.50

1305

Contents (abridged) The field of pediatrics. Care and evaluation of well children. General factors in the care of sick children. Physical examination. The nervous system. The alimentary tract. Unconjugated bilirubin. Death. Nutritional disorders. Miscellaneous disorders. Maldevelopment in early life. Infectious diseases. Poisoning from drugs, metals and food. The digestive system. The respiratory system. The blood. The spleen. The lymphatic system. The thyroid gland. Disturbances of cellular fluid metabolism and related conditions. The genito-urinary system. Psychologic disorders. Disorders in language function. The nervous system. Convulsive disorders. The cerebral palsy. The endocrine system. Diabetes mellitus. Hypoparathyroidism. The bones and joints. The muscles. Allergic diseases. The skin. The eye. Adolescence. Appendix. Index.

Note: (1113) A standard textbook for medical students and office reference book for medical practitioners. The scope and organization are indicated by the section titles given above. The typical section consists of a number of numbered chapters supplemented by literature references. The chapter authors are outstanding teachers and practitioners in pediatrics and allied fields such as neurology, pathology, and dermatology. The fourth edition published in 1945 was the first one edited by Florence Melman, former pupil of Dr. Mitchell, the original author of the work. That edition was very substantial revision; however, in the edition at hand the book has again been extensively revised. New sections have been added, and most of those carried over from the preceding edition have been rewritten in some degree.

RATNER, BERT

Allergy in relation to pediatrics. An official publication of The American College of Allergists. Saint Paul Bruce Publishing Company 1951 228 p. illus. 20 cm. \$3.75 1306

Contents: Causes of allergy in infancy and childhood, by B. Ratner. Site of formation of antibodies, by T. M. Martin. Infection in the allergic child, by B. V. Yampel. Clinical evaluation of diagnostic tests for sensitization in infancy and childhood, by M. M. Paulink. Significance of skin tests in respiratory and dermatologic allergy, by L. W. Hill. Asthma before the age of two, by W. P. Barham. Asthma and hay fever in childhood, by E. R. O'Keefe. Allergy of the intestinal tract, by W. A. McCue. Neurological allergy, by E. C. Dean. Less commonly recognized allergic conditions in relation to children, by A. J. Herxler. Maternal reactions in allergic children, by D. W. Baruch and H. Miller. Propensity of allergy in children, by E. H. Todd. Extrinsic allergic control, by W. C. Dummer. Drug therapy in hay fever and asthma in children, by J. C. O'Neill. Practical treatment of asthma in the infant and young child, by A. V. Brouner. Office management of the allergic child, by J. Glaser.

Note: The papers presented in conjunction with members of the Allergy Section of the American Academy of Pediatrics at the 51st annual meeting of the American College of Allergists in April, 1949 are collected in this volume. One contributor is a pediatrician; all of the others are medical practitioners or teachers. Most of the medical practitioners are specialists in allergy or pediatrics. The book is of value both to specialists and to general practitioners.

SMITH CLAUDE ANDREW

The physiology of the newborn infant. Second edition. Springfield, Illinois Charles C Thomas 1951 348 p. illus. 24 cm. \$8.50

1308

Contents. Introductory. Respiratory—total aspects—muscular aspects. The circulatory system. The blood. Lactose metabolism. Metabolism and heat regulation. The physiology of the digestive tract. Fetal and neonatal nutrition—composition and metabolism of specific food substances. Minerals and vitamins. Renal physiology—regulation of water and electrolyte. Neonatal endocrinology. Neonatal neurology. Index.

Note: The physiology of the period of life in which more physiological situations and adjustments occur than in any other comparable age is the subject of this book. Except for the influence of hormones of the nervous system, the subject is covered thoroughly with careful cross-referencing between the text and the literature citations in the extensive chapter bibliographies. Some data based on animal experiments are included, but most of the information has been derived from observations on human infants. The book is of primary interest to obstetricians and pediatricians.

The first edition was published in 1945. Revisions have been made in the text of most chapters and the length of the book has been extended by 25 pages. Recent literature has been added to the bibliographies.

SLOBODY, LAWRENCE BORIS

Survey of clinical pediatrics. New York McGraw Hill Book Company Inc., 1952 471 p. 24 cm. \$7.50 1307

Contents: Growth and development. Feeding of infants and children. Vitamins. Proximal pediatrics. Psychologic problems. Treatment. Food and electrolyte balance. The normal newborn infant. Diseases of the newborn. Primarily infectious diseases. Respiratory diseases. Heart disease. Gastrointestinal diseases. Surgical conditions of the abdomen. Gastrovascular diseases. Neurologic conditions. Diseases of the skeletal system. Blood chemistry. Neoplasms of infancy and childhood. Endocrine diseases. Allergy. Skin diseases. References. Index.

Note: Based on material previously used in teaching by the pediatric staff of the New York Medical College, this textbook covers the subject for medical students and general practitioners who wish to learn the facts of modern practice in a convenient format. The outline form is the principal method of presentation and, together with the 33 tables in the text, is designed to give wealth of essential information at a glance. Most of the book is made up of condensed monographs on specific diseases and abnormalities. In general the material on specific diseases covers etiology, clinical features, diagnosis, prognosis, and treatment. The up-to-date bibliography consists of five books for general collateral reading and 33 books for additional readings on particular subjects. Dr. Slobody received the 1950 award of the Association for Help of Retarded Children.

TALBOT NATHAN BILL, AND OTHERS

Functional endocrinology from birth through adolescence. By Nathan B. Talbot, Edna H. Sobel, Janet W. McArthur [and] John D. Crawford. Published for the Commonwealth Fund, Cambridge, Massachusetts Harvard University Press 1952 638 p. illus. 26 cm. \$10.00 1309

Contents: The thyroid. The parathyroids. The adrenal cortex. The anterior pituitary. The gonads. The testes. The anterior pituitary. The posterior pituitary. The pineal gland. Appendix. Index.

Note: This book covers (to use the words of the authors) "the science of endocrine systems in health and ordinary disease and the management of endocrinopathies as they appear in young people." It is addressed to pediatricians, particularly pediatricians and general practitioners, but the authors have not assumed any previous knowledge of endocrinology on the part of the reader. Within the age limitations so stated the field is covered comprehensively with particular emphasis on diagnosis and clinical aspects. Although for practical purposes the book is self-contained, literature references are included. The first-named author is Associate Professor of Pediatrics at the Medical School of Harvard University.

TOVERUD KIRSTEN UTHEIM AND OTHERS

Maternal nutrition and child health: an interpretative review. By Kirsten Uthheim Toverud, Genevieve Stearns and Icie G. Macy. Prepared for the Committee on Maternal and Child Feeding of the Food and Nutrition Board, National Research Council, Icie Macy Hoobler chairman, Washington D. C. Published by the National Research Council, National Academy of Sciences, 1950 174 p. illus. 25 cm. (National Research Council Bulletin number 123 November 1950) Paper \$2.00 1310

Contents (abridged): Maternal and infant mortality. Specific nutritional factors in maternal and infant health. Energy value and protein composition. Composition of milk. Califying process. Vitamins D. Vitamins A. Vitamins C. Thiamine. Riboflavin. Nicotinamide. Folic acid. Iron. Vitamin E. Iodine. Phosphorus, potassium, and post-natal care. Bibliography.

cal findings. The community resources essential for old people. References. Index.

Field: A study based chiefly on the records of the Peter Bent Brigham Hospital, Boston, from 1913 to 1943. Approximately 100 tables of statistical data are accompanied by critical interpretative text. Included are social and psychological factors as well as pathological findings and therapy. Tentative conclusions are drawn, but the author points out the need for many more such studies before geriatrics can be established as a distinct field of medicine.

SHOCK NATHAN WETHERILL

A classified bibliography of gerontology and geriatrics. Prepared for Stanford University under a grant from The Forest Park Foundation Peoria, Illinois. Stanford California. Stanford University Press, 1951 599 p. 28 cm. \$15.00 1316

Contents (abridged): Biology of aging: Cellular biology and physiology. Climate. Exercise. Longevity. Metabolism. Nutrition. Physiological age. Reproduction. Theories. Organ systems: Blood. Cardiovascular system. Connective tissue and cartilage. Endocrine system. Gastrointestinal tract. Kidney. Lymphatic system. Muscular system. Nervous system. Reactions of the body as a whole. Reproductive system. Respiratory system. Sense organs. Skeletal system. Skin and integument. Urinogenital system. Geriatrics: Medical care. Diagnosis and physical examinations. Disease. Surgery. Psychological diagnosis. Intellectual functions. Motor responses. Personality. Social and economic aspects. Miscellaneous: Historical references. Lay texts. Research methods, organizations, programs and institutes. Abbreviations of journals cited. Index of authors. Index of subjects.

Notes: A comprehensive, international bibliography. The classification is detailed. Shown above are part titles and the titles of main subdivisions. However, the larger subdivisions, for instance endocrine system, are broken down into appropriate subgroups. Titles are given for the cited publications in addition to other usual bibliographical data. The number of references exceeds 12,000. The United States Public Health Service, Stanford University and the Forest Park Foundation shared in the work's preparation.

GYNECOLOGY AND OBSTETRICS

BECK, ALFRED CHARLES

Obstetrical practice. Fifth edition. Baltimore The Williams & Wilkins Company 1951. 1073 p. Illus. 26 cm. \$10.00 1317

Contents (abridged) The ovarian cycle. Relation of menstruation to ovulation, fertilization, and implantation. Chronological development of pregnancy. Physiology of the fetus. Diagnosis of pregnancy. Management of labor. Prepartum. Position and posture. Management of the labor. The puerperium. Lactation. Multiple pregnancy. Diseases of the decidua and fetal membranes. Abortion. Struck sensation. Medical and surgical complications of pregnancy. The physiology of labor. Fecundity periods. Placental previa and abruptio placentae. Retained and adherent placenta. Postpartum hemorrhage. Puerperal infection. Artificial interruption of pregnancy. Methods used to hasten or complete the delivery of the cervix. Perfora. Cesarean section. Destructive operations. Repair of lacerations. Resuscitation of the newborn child. Anesthesia analgesia and anesthetics. Appendix. Index.

Notes: (1144) A standard and widely used textbook and reference book which is notable for the clarity of both the text and the drawings. The drawings are extremely detailed and are plentiful. Many of the drawings are done in perspective and show the three-dimensional nature of the procedures. The work was actually written for the present edition, and important additions were made to both the text and illustrations. There are now 947 figures of which about 100 are new and about 400 are redrawings of illustrations that appeared in the previous editions. Also, 25 reproductions of micrographs have been added at the end. The scope and the aims of the book are unchanged.

BRADY LEO AND OTHERS

Essentials of gynecology Second edition.
By Leo Brady, Ethna Louise Kurtz, and
Eileen McLaughlin. New York The Mac
millan Company, 1950 256 p. illus. 21 cm.
\$3 50 1318

Contents: Anatomy. Physiology of the female reproductive system. The gynecological history and examination. Gynecological symptoms and their importance. The gynecological infections. Uterine displacements and obstetrical injuries. Ectopic or extra-uterine pregnancy. Sterility. Ovarioepithelial cysts and tumors. Gynecological surgery. The equipment and supplies in the gynecological operating room. The student nurse in the operating room. Postoperative treatment. Postoperative complications. Female uriology. Radiation therapy in gynecology. Index.

Notes. (2157) An authoritative and useful outline for student nurses. It is based primarily on requirements and practices at Johns Hopkins Hospital. The chapter on radiology therapy in gynecology is very solid, certain other chapters and passages—particularly that on equipment and supplies in the gynecological operating room—have been excellent.

CURTIS ARTHUR HALE, AND JOHN WILLIAM HUFFMAN

A textbook of gynecology Sixth edition with 466 illustrations, chiefly by Tom Jones, including 37 in color Philadelphia W B Saunders Company, 1930 799 p. illus. (part col'd) 26 cm. \$11.00. 1319

Contents: (abridged) Section I, Anatomy Section II, Physiology (exclusive of the endocrine glands) Section III, The endocrines. Section IV, History and circulation. Section V, Infectious processes. Section VI, Diseases of the female genitalia. The "cellulitis group" of

[illegible]

Notes. (1144*) The first edition of this standard text for medical college students appeared in 1930. This sixth edition is the first one to bear the name of a collaborating author. The scope and purpose are unchanged; the book is still primarily a text and accurately reflects the current status of general practitioners and gynecologists. This edition was published in 1946. For this edition two chapters were extensively revised, some new material was added to other chapters, and a collection of official interviews was added to the references lists. Before his retirement the senior author was Chairman of the Departments of Obstetrics and Gynecology in the Medical School of Northwestern University. The junior author is currently Associate Professor of Obstetrics and Gynecology in the same school.

DECKER ALBERT

Culdoscopy, a new technic in gynecologic and obstetric diagnosis. With a foreword by Richard W. Telinde, Philadelphia. W. B. Saunders Company 1952. 148 p., illus., 22 cm. \$3.50. 1370

Contents. Colposcopy: its history and development. Anatomy of the vagina. The Ducker colposcope. Colposcopic technique. Colposcopic findings. Ectopic pregnancy. Colposcopy in the management of sterility. Colposcopic cervical neoplasia. Premalignant lesions. Colposcopy in the diagnosis of endometritis. Colposcopic observation of evolution and even transit. Endoscopic photography. Contraception. References.

Note: A thorough and adequately illustrated presentation of relatively new instrumental and techniques which permit visual localization of the pelvic vessels in the course of diagnosis. It is addressed to graduate obstetricians and gynecologists. The bibliography is comprehensive.

EASTMAN NICHOLSON JOSEPH

Williams obstetrics, Tenth edition. New
York Appleton-Century-Crofts, Inc. 1950.
1176 p. Illus. 25 cm. \$12.50. 1321

Contents (abridged) Section one, Orientation. Section two, Anatomy and physiology of reproduction. Section three, Management of normal pregnancy. Section four, Physiology and conduct of labor. Section five, The puerperium and the newborn. Section six, Abnormalities of pregnancy. Section seven, Abnormalities of labor. Section eight, Abnormalities of the puerperium. Section nine, Abnormalities of the newborn. Section ten, Operative obstetrics. Index. The first six

Notes: (2378) This long-anticipated standard textbook. The author's previous work as *Editor* by J. Whitridge Williams, the most thorough writer of the works of Medicine, J. Stander. The present edition is the first to be prepared by Eastman, who is Professor of Chemistry at Johns Hopkins University and Chemist-in-Chief at the Johns Hopkins Hospital, positions which were held by Williams during his professional career. In comparison to the preceding editions the book has been very extensively revised both in the text and illustrations. However, its purpose remains the same. It is still intended for the instruction of apprentice medical college students and the guidance of graduate general practitioners. Selected but very concise bibliographies are appended to most of the chapters, and there are now 639 figures.

FAULKNER, ROBERT LEE, AND MAXION

DOUGLASS

Essentials of obstetrical and gynecological pathology. Second edition. With 300 illustrations including 3 color plates. St. Louis: The C. V. Mosby Company 1949 357 p. illus. (part col'd) 26 cm. \$8.75 1322

Contents: The surgical specimen. Elementary histology. The vulva. The vagina. The cervix. The endometrium. The myometrium. Endometriosis. The fallopian tube. The ovary. Pregnancy. Index.

Note: A simplified and straightforward presentation written for medical college students who are not primarily interested in pathology and for graduate medical practitioners who want a quick survey of current knowledge. Almost as much space is given to illustrations as to text. All but a few of the illustrations are reproductions of microphotographs or microphotographs of pathological specimens. There is no bibliography. The authors are present and former faculty members of the Medical School of Western Reserve University. The first edition was published in 1933. In this edition many new illustrations have been added and there have been some revisions, mostly of minor nature, in the text.

FLUHMAN, CHARLES FREDERIC

Medical treatment in obstetrics & gynecology. Baltimore, Maryland: The Williams & Wilkins Company 1951 157 p. illus. 24 cm. \$3.00. 1323

Contents: Diagnosis and medical therapy in obstetrics and gynecology. Therapeutic measures. Medication. Office and hospital procedures. Index.

Note: An office reference book which contains concise information on many topics ranging from suggestions for the pregnant woman to lists of equipment for treatment rooms connected with physician's offices. A tabulation of medical drugs is included. The miscellaneous material here includes suggested "prescription forms" for anesthesia and treatment. Some literature references are supplied. The author is Clinical Professor of Obstetrics and Gynecology in the School of Medicine of Stanford University.

GREENHILL, JACOB PEARL

Principles and practice of obstetrics. Originally by Joseph B. DeLee. Tenth edition with 1140 illustrations on 864 figures, 194 in color. Philadelphia: W. B. Saunders Company, 1951 1020 p. illus. (part col'd) 26 cm. \$12.50 1324

Contents: (abridged) Part I. The physiology of reproduction, pregnancy labor and the puerperium: Physiology and conduct of pregnancy. Physiology and conduct of labor. Physiology and conduct of the puerperium. Part II. The pathology of pregnancy labor and the puerperium: The pathology of pregnancy. Pathology of labor. Pathology of the puerperium. Quantitative obstetrics. Index.

Note: (1182*) A standard text and reference book with illustrations going back to the first edition published in 1913. It covers the care of obstetrical cases from conception through the puerperium. Surgical procedures associated with delivery are fully covered. The illustrations are exceptionally clear and numerous. The present edition represents another very extensive revision in both text and illustrations. Some of the changes are due to a printed effort by four leading American authors of textbooks on obstetrics to achieve more uniformity in definitions, terminology, classification, and procedure. Others are due to advances in knowledge and technique, while still others are apparently changes and additions suggested by the users of the previous editions.

GREENHILL, JACOB PEARL

Surgical gynecology, including important obstetric operations. Illustrated by Angela Bartenbach. Chicago: The Year Book Publishers Inc., 1952 350 p. illus. 21 cm. \$8.50. 1325

Contents: Preoperative preparation and postoperative care and considerations. Vulvar and perineal operations. Vaginal operations. Abdominal operations. Index.

Note: In this book the first chapter is 70 pages long and the remainder of the space except that occupied by the index is devoted to 104 plates, most of which contain reproductions of several drawings. The book is organized so that plates on a left-hand page face a page of printed text of description of the particular plate. The illustrations were made from original drawings of techniques employed by the author who is Professor of Gynecology in Cook County Graduate School of Medicine. The book is particularly of interest to general surgeons and to beginners in gynecology.

INTERNATIONAL CONGRESS ON OBSTETRICS AND GYNECOLOGY

Transactions of the International and fourth American Congress on Obstetrics and Gynecology. Sponsored by the American Committee on Maternal Welfare, Inc. Held in New York City, New York, May 15-19, 1950. Edited by George W. Kosmak. Published as a supplementary volume to the American journal of obstetrics and gynecology volume 61A June, 1951. St. Louis: The C. V. Mosby Company 1951 823 p. 26 cm. o.p. 1326

Contents: (abridged) The implantation and early development of the human ovum, by A. T. Havig and J. Rock. On some hormonally induced changes of gestation, by R. Gendler. Contractility of the human uterus and its physiological basis, by R. M. E. Rytroff. The management of ectopic gestation, by G. W. Gendler. Gestation in cancer, by C. Little. The relationship of viruses to neoplastic disease, by H. A. Anderson. Hormonal factors in experimental ovarian transplants, by W. U. Gersner. Studies on the chromatin in normal and tumorous pregnancies, by C. Kennedy. The ecological aspect of concepts of pregnancy and uterine placenta, by R. Little. Some present concepts in the management of the tumors of pregnancy, by H. K. Van Wyck. Relationship with radiotherapy in carcinoma of the uterine cervix, by H. L. Kottlander. The early diagnosis of uterine cancer, by H. F. Trent. Similar trends in abdominal hysterectomy, by T. C. Feghali. The logical approach to pessaries, by R. Stacey. The influence of inherited crossed lines on the course of labor, by K. Philipp. Termination of the human prenatal tract and its detection by examination of the uterine secretions, by J. Hillebrecht. Creation of new veins with venous anastomosis, by J. Vidalek. Treatment of venous value in pregnancy, by R. Schenck. Indications and contraindications in cesarean section, by H. E. Schenck and J. E. Green. Pregnancy and delivery following cesarean section, by J. A. Green. Our experience in the use of DeLee's calipers, by A. G. P. Raman. The management of the pregnant diabetic patient, by W. F. Olsen. Endocrine therapy in gynecology, its aims and its possibilities, by K. Rydberg. The nature of the blood coagulation mechanism and its relationship to some surgical problems in obstetrics and gynecology, by W. H. Rogers and C. L. Schneider. Prophylactic attempts to control fetal erythroblastosis by diet, by R. E. van Buren. On the pathogenesis and life history of endometriosis, by J. Verstraet. Experimental endometriosis, by R. W. T. Little and R. B. Scott. The kidney in sharply placenta, by H. L. Kottlander. Gestational cancer and pregnancy, by J. De Kasse. Fetal circulation as cause of sterility and its conservative treatment, by L. C. Rubin. Physiology of the uterine wall and its part in sterility and habitual abortion, by R. Palmer. Rational endocrine therapy in infertility, by M. X. Davis. The association of intercurrent disease and obstetric shock, by H. R. MacLennan. Alterations in the coagulation mechanism as cause of intra- and post-partum hemorrhage, by D. E. Rad. Studies on crystallization of cervical mucus and its relationship to cervical competency of operations, by A. Gendler. In Part. The postpartum delivery in acute block anesthesia, by G. DeLee. Our experience with the Wertheim operation, by J. A. Schuler. Author's index. Subject index.

Note: A collection of the papers which were presented on the occasion indicated in the volume title. Although number of the papers were written in languages other than English, all were translated into English for this volume. Following presentation at the Congress each paper was discussed by participants. Transcripts of these discussions follow the individual papers in the book.

KLEIN, HENRIETTE R. AND OTHERS

Anxiety in pregnancy and childbirth. By Henriette R. Klein, Howard W. Potter, and Ruth B. Dyk. New York: Paul B. Hoeber,

Treatment of carcinoma of the ovary by H. C. Taylor, Jr. *Advances in carcinoma of the uterus*, by C. L. Eakin. The premenstrual status of metastatic cervical carcinoma, by F. W. T. Linds and G. A. Galvin. Cancer of the cervix—principles of collective treatment, by A. W. Scarsam. Radical hysterectomy for cancer of the cervix with bilateral pelvic lymphadenectomy (the so-called Wertheim operation), by J. V. Mager. Radiotherapy in uterine cancer, by H. L. Kottmeier. The surgical problem of advanced pelvic cancer—partial and complete pelvic exenteration, by A. Brunschwig and V. K. Parca. Cancer of the vulva, by L. Furman. Superovulatory induction in gynecology, by L. L. Robbins and M. D. Schick. Cancer of the cervix in pregnancy, by A. B. Hunt and R. D. Munsey. Operative techniques: Vaginal hysterectomy, by A. D. Campbell. The management of polyps of the uterus and vagina, by L. K. Pfannen. The Manchester-Ferguson operation, by T. L. Montgomery. Complete loss of the peritoneum, by R. W. Sutton. The treatment of stress incontinence of urine, by C. D. Ketch. Enteritis, by L. R. Wharton. Prospective and retrospective cure. Amenorrhea for gynecological procedures, by H. K. Beacher. Anticancer therapy in gynecological surgery and pelvic infections, by C. Lyman. Surgical treatment of the pain of pelvic disease, by B. Shatzman and J. C. White. Commercial preparations of endocrine products used in gynecology, by F. H. Benedict. Index.

Notes: (1114) The patients of the first volume published in 1946 has been followed in volume 2 of this series. Again there are 20 short monographs, each of which has been written by specialists who have made "babies" of the subject about which he writes. Most of the monographs are therefore summaries of the current status of the topic rather than reviews of progress during the period of arbitrary length. Short lists of literature references accompany many of the papers, but no author has attempted comprehensive bibliography. The series is addressed to graduate medical practitioners. The editors are members of the faculty of Harvard Medical School.

MOLOY, HOWARD CARMAN

Clinical and roentgenologic evaluation of the pelvis in obstetrics. Philadelphia W B Saunders Company 1951 119 p. illus. 22 cm. (American monograph series) \$3.00 1332

Contents: General morphology of the pelvis. Clinical examination of the pelvis. The fetus. The mechanism of labor. Pelvic operations. Breech delivery. Version and breech extraction. Radiologic technique. The roentgenologic report. Methods for quantitative estimation of cephalopelvic disproportion. Secondary Problems for future investigation. Bibliography.

Notes: The specialized knowledge of pelvis type and variations and of their significance in obstetrics is compactly but clearly presented in this monograph addressed both to medical college students and to practicing obstetricians. The four classical types of pelvis and intermediate variations are described, and this leads material is then related to practical techniques in pre-delivery examinations and to the use of forceps in delivery. In the final section the degree of inlet disproportion is related to methods of delivery found necessary in a run of 768 cases.

NATIONAL COMMITTEE ON MATERNAL HEALTH

Menstruation and its disorders. Proceedings of the Conference. Edited by Earl T. Engle. Springfield, Illinois Charles C Thomas, 1950 358 p. illus. 24 cm. \$6.50 1333

Contents: Studies on the effects of steroid sex hormones on alkaline phosphatase in the endometrium, by W. B. Arltman. The chemical biochemistry of the human uterine cervix with supplementary notes on the endometrium, by G. S. Whitfield and others. Methods of study for tissue biopsy, by G. Oswald. Enzymes in the ovarian disease of rats, by R. K. Meyer and W. H. McMillan. Aberrant human and simulated endometriosis, by A. T. Hertig and J. Rock. The histology of the human endometrium, by H. Okabayashi. The relation of blood flow to endometrial growth and the reception of menstruation, by J. E. Meade. Microtome and microchemical studies, by G. W. Smith. Menstrual (uterine-cervical) dysfunctions, by G. V. E. Smith. Hormonal factors related to peripheral vascular homeostasis, by K. Shier and S. W. Zarbach. Endometrial pathology of functional bleeding, by R. W. Talano. The atypical secretory phase, by C. L. Buxton. The physiology and pharmacology of the ovulation, by R. A. Woodbury. Summary of proceedings, by J. Rock. List of members of the conference on menstruation.

Notes: A collection of original papers, most of which present information based on recent investigations and not published elsewhere. Excerpts from the discussions at the conference are included for some of the papers, and literature references are appended to most of them.

NOVAK, EMIL

Gynecologic and obstetric pathology with clinical & endocrine relations. Third edition. With 630 illustrations, 19 in color. Philadelphia W B Saunders Company 1952 595 p. illus. (part col'd) 26 cm. \$10.00 1334

Contents: (abridged) The endocrinology of the menstrual cycle and pregnancy. Diseases of the vulva. Diseases of the vagina. Benign lesions of the cervix, cervicitis, cervical erosion and cervical polyp. Carcinoma of the cervix. Metastasis of the endometrium. Hypertrophy of the endometrium. Endometriosis, endometrial polyp, myometrial myoma and other benign tumors of the uterus. Adenomyosis (adenomyoma) uteri. Sarcoma of the uterus. Carcinoma of the endometrium. Salpingitis. Tumors of the tube, peritonitis, and uterine ligaments. Infertility causes of the ovary. Menopausal signs of ovary. Cryosurgery of every Primary carcinoma of the ovary. Metastatic ovarian carcinoma. Benign tumors of every Ovary. Endometriosis of the ovary. Archivalization of the ovary. Adrenal tumors of ovary. Mesodermatous, fibro cell tumor (mesenchymal tumor). Ectopic pregnancy. Pelvic endometriosis. Myeloid tumor and chorioepithelioma malignum. Abnormalities and diseases of the placenta and appendages (other than hydranionia mole and chorioepithelioma) by L. M. Hoffman. Common benign lesions of gynecologic interest. Index.

Notes: (1114) A comprehensive textbook designed for medical students, practitioners, pathologists, and specialists. The subject is covered in terms of all the important lesions, such as sperm and microscopical characteristics, histology and pathogenesis of neoplastic and history of the female genital system. Special attention is given to the correlation of pathology with clinical practice, and in endocrinologic aspects. The third edition has been extensively revised, and the book now includes material on many new diseases hitherto not discussed in previous editions. About 60 illustrations have been added. The chapter on common breast lesions of gynecologic interest has been added. Reference to recent literature have been incorporated in some of the bibliographic lists.

NOVAK, EMIL, AND EDMUND R. NOVAK

Textbook of gynecology. Fourth edition. Baltimore The Williams & Wilkins Company 1952 800 p. illus. 24 cm. \$9.00 1335

Contents: (abridged) Embryology of the female generative organs. The gynecological history and examination. Physiology and endocrinology of menstruation. Cyclical pathology of the genital tract. Clinical features of menstruation. Cephalic presentation of the female generative organs. Diseases of the vulva. Diseases of the vagina. Cervicitis and cervical polyp. Carcinoma of the cervix. Ovarian lesions, oophorectomy and salpingitis. Displacements of the uterus. Myoma of the uterus. Adenomyosis of the corpus uteri. Sarcoma of the uterus. Acute pelvic inflammatory disease. Tuberculosis of female generative organs. Malignant tumors of the ovary. Tumors of the tube, peritonitis, and uterine ligaments. Endometriosis. Lesions of the uterus. General principles of gynecological surgery. The management of the menopause. Amenorrhea and hypomenorrhea. Dysmenorrhea. Sterility. Pregnancy conditions in gynecological practice. Common diseases of the female urinary system, by H. B. Everett. Index.

Notes: (1114) A standard American work in which diagnosis and treatment are emphasized but in which there is also much information on endocrinology and other biological aspects of gynecology. The book is used both by undergraduate students in medical colleges and graduate practitioners. The present edition is enriched by the author's own and associates in Johns Hopkins Medical School. The revision are numerous but not so extensive as to effect the plan of the book. The text has been reworded and rewritten in various parts. 42 illustrations have been added, and recent literature has been included in the bibliography.

PARMELEE, ARTHUR HAWLEY

Management of the newborn. Chicago The Year Book Publishers, Inc., 1952 358 p. illus. 21 cm. \$7.00 1336

Contents: Introduction. The fetus. Birth and neonatal adjustment. Characteristics of the newborn. The premature infant. Care and management of the newborn. Disturbances directly due to birth

processes. Disturbances due to abnormal variations of physiologic peculiarities. Disturbances due to prenatal factors. Disturbances due to acquired infections and other postnatal hazards. Index.

Note. A readable short treatise designed as a general introduction. It makes available to the physician the practical assistance in knowledge that have been published in various years of such books as Pettit and Achy *Fetal and neonatal death*, 2nd edition, 1949 and Smith, *The physiology of the newborn infant* 1947. Also much material has been included from the author's own extensive experience at Cook County and Proctor-Knight Hospitals in Chicago. The diagnosis and treatment of disorders and neonatal conditions are stressed. The chapters are supplemented by useful lists of references and there are 47 figures.

POTTER, EDITH LOUISE

Pathology of the fetus and the newborn.
Chicago Year Book Publishers, Inc., 1952
574 p. illus. 27 cm. \$19.00. 1337

Contents. Early development of fetus and placenta. Rate of fetal growth. Chorionic vessels and placenta. Abortion. Causes of fetal and infant death. Postmortem examinations. Prematurity. Jaundice. Birth traumas. Malformations. Tumors. Multiple pregnancies and conjoined twins. Heart and lung disease. Limp and rickets. The skin, glands of secretion. Mouth. Teeth. Bones, sinuses and hair. Dermatology and subcutaneous tissues. The stomach and intestines. Hematology and subcutaneous tissues. The genitourinary system. Scabies. Syphilis. Rhinitis and otitis. Skin. Head, body.

Note: A valuable reference work for the knowledge of abnormalities, physiological variations, and certain diseases of infants from the viewpoint of conception to about the age of 1 year. A considerable part of the material pertains to conditions that result in perinatal death or death soon after delivery. The book is based on an intensive study of many thousands of autopsies performed at Chicago hospitals, particularly the Chicago Lying-in Hospital where the author holds the position of Pathologist. There are 601 reproductions of photographs. Each of the chapters is accompanied by list of references.

POTTER, EDITH LOUISE, AND FRED L. ADAIR

Fetal and neonatal death: a survey of the incidence, etiology and anatomic manifestations of the conditions producing death of the fetus in utero and the infant in the early days of life. Second edition. Chicago: The University of Chicago Press, 1949 173 p. illus. 22 cm. (The University of Chicago Committee on Publications in Biology and Medicine)
\$3.75 1338

Conducts: The personal interview and infant, Postmortem examination, Survey of the practical census of total and neonatal death, Special pathology, Statistical data pertaining to births, maternal deaths, infant deaths, and stillbirths, Infant

1973). A comprehensive book on the maternal importance, and significance of the principal causes of death of human infants before birth or in the days immediately following birth. Women, nursery and standards are first covered, then the authors describe techniques of the postmortem examination, outline the principal causes of death, cover the pathology in some detail, and finally summarize the statistical data of the fetal and infant deaths in the United States of America. Literary references are included. The first edition was published in 1937. For this edition the authors have extensively revised especially in the laboratory and histological detail, and added new material on topics such as the effects of rubella and other virus infections of the mother during the first few months of pregnancy.

REICH, WALTER J., AND MITCHELL J
NIGHTOW

Practical gynecology With 187 illustrations including 55 subjects in color Philadelphia J B Lippincott Company 1950 illus. (part colored) 449 p. 24 cm. \$10.00 1339

Contents: Psychosomatics of gynecology Practical approach to gynecologic diagnosis. History and the early detection of cancer. Laboratory findings in gynecology Reproductive endocrinology

Menstruation. Disturbances of menstrual function. Anomalies and malpositions of the female genitalia. Infectious lesions. Infections. Traumatic lesions. Neoplasms. Contraception. Gynecological complaints. General Surveys. Techniques and apparatus. Low fertility and sterility. Prenatal examination and control. Index.

Note. Although limited mainly to procedures which are carried out in the general practitioner's office, the book covers a wide range of gynecologic disorders and related conditions. Both medical and minor surgical treatments are included. There is more than the usual emphasis on diagnostic techniques and psychosomatic aspects, but most of the space is devoted to clear, succinct descriptions of techniques. The book is based on the experience in the out-patient clinics of Cook County Hospital in Chicago and on teaching the subject in the Cook County Graduate School of Medicine.

REYNOLDS SAMUEL ROBERT MEANS

Physiological bases of gynecology and obstetrics. Springfield, Ill. Charles C Thomas, 1952 153 p 23 cm. (American lecture series. Publication no. 128 A monograph in American lectures in gynecology and obstetrics, edited by E C Hamblen) \$5.50. 1340

Contents. Problems in uterine physiology and their interrelation. Etiopathology of the various states of uterine physiological health. The method of clinical dilatation. Abnormal labor and its consequences: uterine atony. The physiological basis of menstruation. Menstrual character and its relation to the uterine cycle. The causes, mechanism and course of uterine involution. The regulation of uterine activity in the ovary. The endocrine effects of hysterectomy. The physiological effects of uterine distention. Uterine growth during pregnancy. Uterine atony during pregnancy. Fetal mortality in the first and second trimester of pregnancy. Pathogenesis of the atony in the uterus at the second, third and fourth trimesters. Summary. References. Index.

Notes: This book may be used as supplement to the author's *Physiology of the uterus*, 2nd ed. (see number 313) or as a separate separate work. It is concise review of advances made since about 1949, together with selected background information. As to the scope of the material the author has stated: "The material contained in this volume is part of larger course given to the postgraduate level for physicians at the Facultad de Medicina de Montevideo."

ROMBER, JACK IAY

Sterility—its cause and its treatment.
Springfield Illinois Charles C Thomas, 1952.
424 p. Illus. (part col.) 26 cm. \$12.50. 1341

Contents: Part I. The female female. External development in
sterility. Physiology of ovum, corpus luteum, and menstruation. Juvenile
and embryology. Pericarditis, trauma and fertility. Causes of sterility—
a necessary and check-list. Other causes associated with
sterility. Fertility in relation to the size and structure of the an-
terior. Gynecologic pathology and sterility. The history and physical
examination of sterile patients. Means of investigation of the female
female. Sterility and the endocrine. Sterility of the female sex
menstruation. Menstruation and the menstrual cycle. The medical
causes of sterility. Other treatment of gynecologic sterility. Im-
munological sterility. Special means for treating sterility. Surgery in
the treatment of sterility. Part II. The male male. The male
male. Male endocrinology. The history and examination of the male.
Diagnosis of male sterility. Index.

Notes: A comprehensive treatise like which the author has given information on each facet of the problem as the relation of nutrition, some states to fertility in addition to full coverage of anatomical, physiological, and clinical aspects. Diagnostic and therapeutic techniques are well described, and abundant literature references are included. There are 181 figures.

SNOW WILLIAM

Röntgenology in obstetrics and gynecology. Second edition. With 273 illustrations. Springfield Charles C Thomas, 1952 363 p. illus. 24 cm. \$10.50. 1342

Comments: General discussion of Rosengren study of puerperal. Tachalski of Rosengren study of pregnancy. Fetal architecture. The unusual script presentation and participation. Some factors which influence position, engagement, and delivery. Atypical presentation. The fetus. Rosengren study of the soft parts of pregnancy. Placenta previa. Puerperal placental separation. Extra-uterine pregnancy.

The size of the uterus in pregnancy. Ultrasonography. The lateral genitalia and the urinary tract. The lateral genitalia and the gastro-intestinal tract. Gynecitis in the pelvis, review. Röntgen study in bleeding with pregnancy. Recovery of tissue from X radiation. Index.

Notes: Obstetric and gynecologic roentgenology is a special field attended by difficulties in interpretation because the soft tissues under study produce roentgenograms of low contrast. This book by a radiologist who has had extensive experience in this specialty is an introductory but comprehensive text. As might be expected, most of the illustrations are reproductions of roentgenograms. The illustrations are carefully and specifically interpreted in the text. In numerous instances where it was not possible to make clearly contrasted reproduction, the roentgenogram is supplemented by drawing.

TAYLOR, E. STEWART

Manual of gynecology. With 70 illustrations. Philadelphia: Lea & Febiger 1952. 204 p. illus. 24 cm. \$4.50. 1343

Contents: History taking and physical examination. Anatomy and embryology of the female generative organs. Physiology and endocrinology of the female generative tract. Cyclic history of the female generative tract and menstruation. Congenital anomalies of the female genital tract. Diseases of the external genitalia. Diseases of the vagina. Benign conditions of the cervix. Malignant diseases of the cervix. Benign conditions of the uterus. Malignant diseases of the uterus. The use of biopsy and the vaginal smear in gynecology. Acute pelvic inflammatory diseases. Pelvic abscess and chronic inflammatory diseases. Benign tumors of the ovary. Malignant and potentially malignant tumors of the ovary and tube. Endometriosis. Ectopic pregnancy. Hydatidiform

mole and choriocarcinoma. Abortions. Ovarial torsion, oophorectomy, salpingectomy, and hysterectomy. Management of menstrual excesses. Endocrinopathic primary and secondary amenorrhea and hypomenorrhea. The menopause, dysmenorrhea, oligomenorrhea and dyspareunia. Infertility. The use of hormone preparations in gynecology and obstetrics as to proprietary hormone products. Index.

Note: The essentials of contemporary gynecology are covered very concisely in this work, which is addressed primarily to medical college students and secondarily to general practitioners. The straight forward but abbreviated text is supplemented by brief references to the readily available recent literature. The author is head of the Department of Obstetrics and Gynecology in the School of Medicine of the University of Colorado.

YEAR BOOK OF OBSTETRICS AND GYNECOLOGY

The 1952 year book of obstetrics and gynecology (July 1951-June, 1952). Edited by J. P. Greenhill. Chicago: The Year Book Publishers, Inc., 1952. 575 p. illus. 20 cm. \$5.50. 1344

Contents: Obstetrics: Pregnancy. Labor. Puerperium. The newborn. Gynecology: General principles. Diagnosis. Infertility. Operative technique. Infections. Benign tumors and endometriosis. Special ovarian tumors. Malignant tumors. Menstrual disorders. Endocrinology. Index. Index to authors.

Notes: (1171.) An annual edited and organized similarity to the other books in the same series. Chapters consist of fairly long abstracts selected from the world medical literature. In many instances the abstract is supplemented by pertinent material by the editor. There are 40 figures in the present issue.

SURGERY

GENERAL

AMERICAN COLLEGE OF SURGEONS

Surgical forum. Proceedings of the forum sessions thirty-seventh clinical congress of the American College of Surgeons San Francisco California, November 1951 Surgical forum committee Owen H. Wengensteen and others, Philadelphia W B Saunders Company 1952 667 p illus. 25 cm. \$10.00 1345

Contents (abridged) The neck and esophagus. Evaluation of chest section with an artificial thorax, by R. E. Davis, is a method for the production of irreversible mediobronchial obstruction in dogs, by C. H. McCroskey and others. The effects of hemorrhage and increased and intra-arterial infusions upon respiration and the volume of blood in the lungs, by R. Wilson and A. F. Rahn. Radio-brominated glucose: studies of intrabronchial neoplasms utilizing radioactive phosphorus, by E. F. Klemm and others. The effect of streptolysin and streptodornase on wound healing in pulmonary reactions, by G. Corcos and others. The stomach and spleen. An experimental study of the effect of heparin and streptococcus upon gastric secretion and gastric ulceration, by H. N. Hurler and L. E. Slaughter. The effect of calcium ions on digestive juices on gastric secretion, by E. A. Fries and others. The use of ACTH in hyperacidity, by E. C. Klemm and O. E. Rahn. The histological and experimental use of hydrocortisone in the prevention of intestinal adhesions, by J. R. Conarty and V. R. Hirsch. Influence of size of nuclei and frequency of mitosis on mortality of the small intestine, by P. H. Scheraga and others. Experimental studies on closed colon loops, by A. W. Ullrich and others. Before strength and healing strength of and lacerated intestinal anastomosis, by M. M. Fildes and others. The liver and portal system. Studies on the hepatic circulation in the *Macaca mulatta* monkey and in man, by C. G. Child and others. Studies of hepatic response to changes in blood supply, by W. E. Brummett and others. Reciprocal hepatoduodenal relationship between the portal and extra-hepatic—its appearance in the problem of cancer, by E. Lefevre and others. The effect of diversion of bile to various parts of the intestine, by C. M. Maki. The role of concentration of bile in toxicity, by J. R. Johnson. The heart. A physiologic evaluation of the surgical treatment of mitral stenosis, by H. Helgeson and others. A cinematographic study of the function of the mitral valve in man, by A. Kaimowitz and others. Transcatheter heart grafts—transplantation of the heart in dogs, by E. Marcus and others. The maintenance of circulation by cross-transfusions during experimental operations on the open heart, by E. Kerr and others. Practical experience in partial experimental surgical procedures within the left heart, by O. H. A. Chyren. The blood vascular system and blood flow. Long (antral) and short (fundal) grafts, by J. Austin and others. Early results of experimental studies of the action of high intensity electrical arc anastomosis, by E. K. L. Hui and others. Arterial anastomosis—should the anastomosis be done? by H. Davis and others. The relationship of clotting of whole blood on contact with stainless steel, by C. W. Walker and others. Dural plate studies in relation to radical operations of the neck, by A. J. Aulay and others. The influence of ACTH on venous thrombosis, by K. O. Nelson. Experience with partially circulating fibrinolytic enzyme in surgical diseases, by R. R. Marano and J. P. Frost. The thymus gland tract: The effect of adrenalectomy on tumors of the thymus tissue and parathyroid gland, by C. E. Fritzsche and C. B. Kipner. Mode of development of electrolyte balance in experimental anastomosis, by J. Lipson. Histopathological study—angiography—an experimental study, by D. R. Smith and others. X-ray physiology and anatomy. The absorption of the endosseous field—relating with radioactive phosphorus (^{32}P), by L. Mann and J. R. Adams. The effect of cortisone and ACTH on scarring in the brain and in peripheral nerves, by R. Kohnen and others. Air embolism complicating operations on the brain and spinal cord, and measures to prevent them, by R. Jager. Treatment of hydrocephalus by direct shunt from ventricle to jugular vein, by P. E. Nelson and E. R. Spitz. Orthopedics. Human electroencephalogram, by J. Libet and R. Tolman. Experimental study of the fate of bone grafts, by C. Campbell and others. A preliminary report on studies of basic

calcium phosphate in bone replacement, by R. D. Ray and A. A. Ward. Experimental increase in leg length—a preliminary report, by C. L. Wilson. Rapid and regeneration. An experimental method for the study of skin homographs, by P. Kaudel and others. The effects of ACTH and cortisone on experimental skin homographs, by P. Kaudel and others. The effect of cortisone on wound healing, blood regeneration and growth, by R. Hiley and J. F. Lutz. Some observations on connective tissue growth and tissue culture in relation to labial formation—a preliminary report, by D. W. Rahn and others. Evaluation of the exposure method in the treatment of burns, by K. J. Palinski and others. The prevention of adhesions in the chest and the pericardium by cortisone, by E. E. Schelling and others. The topical use of streptolysin-streptodornase in infected and necrotic lesions, by E. L. Yarnall and others. The endocrine. Studies on the control of milk-ejecting reflex between, by E. Zimmerman and M. M. Schomburger. Effect of autonomic blocking drugs on experimental pneumonitis, by J. D. Palmer. Physiological studies on the external pancreatic secretion in man, by J. M. Thomas and others. Body fluid and electrolyte. Blood volume and shock: The turnover rate of body water in the human, by H. K. Hiley and others. The use of radiolabeled inulin to measure serum albumin (HISA) for clinical total blood volume studies, by J. R. Aust and others. A new approach to fluid and electrolyte therapy, by A. Horowitz and others. The absorption and excretion of metabolized inulin in hemorrhagic shock, by T. M. Chao and others. Comparative effectiveness of certain volume substances in expanding plasma volume after blood loss, by E. C. Karmali and others. Index.

Notes: Original papers bearing on recent experimental investigations, on advances in the knowledge of chemistry as newly developed surgical techniques, etc., prepared for the congress issued in the volume lists have been collected in this book. Altogether 116 papers are reported in full and many others are represented by abstracts. The average length of an individual paper is about five and one-half pages, but in this small space most authors have succeeded in giving enough information to enable a reader of the volume to judge whether the previous or technique study discussed is of value to him. Most of the papers are supplemented by illustrative references and illustrations.

ANSON BARRY JOSEPH AND WALTER G. MADDOCK

Callender's surgical anatomy Third edition with 929 illustrations. Philadelphia W B Saunders Company 1952 1074 p. illus. 26 cm. \$14.00. 1346

Contents (abridged) Part I, The head. Part II, The neck. Part III, The thorax. Part IV, Abdomen. Part V, Female pelvis. Part VI, Male pelvis and external genitalia. Part VII, Female perineum and external genitalia. Part VIII, The vertebral column, vertebral canal, and spinal cord. Part IX, Upper extremity. Part X, Lower extremity. Index.

Note (1911) One of the standard American texts for medical college students preparing for surgery. The primary emphasis is on college students but the book material is carefully related to surgical anatomy and to related topics such as anatomy. The previous editions appeared in 1919 and was the work of Dr. C. L. Callender. In this edition the work is substantially altered and there are many new illustrations. The authors are members of the faculty of Northwestern University Medical School.

BLAND JOHN H.

The clinical use of fluid and electrolyte. Illustrated. Philadelphia W B Saunders Company 1952 259 p. illus. 28 cm. \$6.50. 1347

Contents: Basic physiologic considerations of body fluid and electrolyte. "Pure and mixed water and sodium chloride depletion. Water and electrolyte in congestive heart failure. Normal and abnormal potassium metabolism. Water and electrolyte in patients with renal disease. Fluid and electrolyte in the adult and child. Fluid and electrolyte in surgical patients. Fluid and electrolyte in renal disease.

Field and electrolyte in diabetes mellitus. Field and electrolyte in adrenal cortical insufficiency. Adverse effects of heat on body water and electrolyte. ACTH and cortisone—physiologic effects in body fluid and electrolyte. Behavior of body water and electrolyte in shock, burns, crush and blast injury. Postoperative metabolism and aspects to cold and other stress.

Notes: Current knowledge of the interrelationship of body fluid and electrolyte is in this work summarized and integrated for the benefit of general practitioners of medicine, clinicians, and those who are concerned with the pre- and post-operative care of surgical patients. The basic knowledge and the experimental and clinical observation on which it is based are adequately covered, but the emphasis is on the aspects that have practical application in diagnosis and treatment. Statements in the text are referenced to fuller discussions in the literature. However, explicit information is given on diets, medicines, drugs and changes in the book itself. The author is member of the faculty of the College of Medicine of the University of Vermont.

CHRISTOPHER, FREDERICK

A textbook of surgery by American authors. Fifth edition. 1465 illustrations on 742 figures. Philadelphia: W B Saunders Company 1950. 1550 p. illus. 27 cm. \$13.50 1348

Contents (abbreviated): Inflammation and wound healing. Shock; acidosis and alkalosis; water and electrolyte balance. Bacteriology and chemotherapy. Bacterial, fungal and viral diseases. Thermal, chemical, electrical and radiation injuries. Muscles, ligaments and nerves. Trauma, lacerations, abrasions and lacerations. Infections and trauma of bones and joints. Fractures. Dislocations. Deformities. Paralytic disorders. Development of bones and joints. Anesthetics and anesthesia. The nervous system. The endocrine system. The vascular system. The lymphatic system. The skin and subcutaneous tissues. The head. The neck. The breast. The thoracic wall, pleura and lungs. The heart and pericardium. The mediastinum, including the esophagus. The abdominal wall. The peritoneum. The stomach and duodenum. The small and large intestines. Anal canal and rectum. The liver and biliary system. The pancreas. Biliary. The genitourinary tract. Gynecology. Military surgery. Plastic surgery. Asphyxial surgical technique. Preoperative and postoperative care. Radiology. Anesthesia. Index.

Notes: (1157) A standard and widely used medical college textbook. The chapters have been written by eminent surgeons and teachers of surgery and each area has covered a branch of surgery in which he is recognized as an expert. In the present edition there are 230 chapters or subsections written by 177 authors. Chapters are devoted to such specific topics as surgical treatment for congenital obstructions of the life ducts. In general for each disorder covered the etiology, pathology, symptoms, diagnosis and medical and surgical treatments are concisely described. In numerous instances non-surgical treatment is emphasized. Not all surgical techniques are covered but several leading ones are also described for specific disorders. The fourth edition was published in 1945. Approximately 30 new sections have been added in this edition and about 400 sections carried over have been extensively revised. Recent literature has been added to the lists of references.

COLE, WARREN HENRY editor

Operative technic. Introduction by Frank H. Lahey. New York: Appleton-Century-Crofts, Inc., 1949. 2 v. illus. (part col.) 25 cm. Vol. I. \$18.00. Vol. II. \$16.00 1349

Contents: Volume I. General surgery. Wound healing and the care of wounds, by R. L. Brown. Hemorrhage and shock, by J. D. Stewart. Burns, by C. C. Lund and S. M. Loveness. Preoperative and postoperative care, by R. E. Kline. Anesthetics, by F. M. McKeever. The face, mouth and jaws, by J. R. Brown and F. McDowell. The esophagus, by W. H. Adams. Abdominal incisions, by F. A. Cole and K. F. Michals. Surgery of stomach and duodenum, by W. H. Adams. Gastric vagotomy in the treatment of peptic ulcer, by L. R. Draper. Surgery of the small intestine, by C. L. Jones. The pancreas and adrenal, by A. Brunschwig. The gallbladder and bile ducts, by W. H. Cole. The liver and subhepatic space, by A. Ochsner and M. E. DeBakey. The colon and appendix, by R. E. Graham and J. Gray. The lower part of the sigmoid, the rectum and anus, by C. F. Dixon and A. L. Lichtenhan. The lymphatic system, by R. E. Goldschmidt. Splenectomy, by W. H. Cole. The surgery of partial hypoparathyroidism, by M. A. Womack. Abdominal hernia, by R. F. Lehmann and C. E. Derle. The breast, by T. O. Orr. The thyroid and parathyroid glands, by J. de J. Penberthy and R. M. Beck. The testes, scrotum, testis and vas, by H. L. Mc

Laughlin. Acute vascular injuries, by M. E. DeBakey. Traumatic aneurysm and arteriovenous fistula, by D. Ellis. Varicose veins, by M. E. DeBakey. Surgery of the hand and its tendons, by H. A. Allen and R. L. Ketch. The skin and subcutaneous tissues, by F. O. Jones. Index. Volume II. Specialty surgery. Introduction, by A. O. Whipple. Plastic surgery, by F. W. Goss. Thoracic wall, pleural cavity, lungs and diaphragmatic hernia, by J. M. Dwyer. The heart and mediastinum, by C. E. Beck. Fractures, by J. A. Key. Hemorrhages, aneurysms, by F. Michals. Dislocations and aneurysms of the base, by C. E. DeBakey. Surgical approaches to the joints, by L. C. Abbott and others. The orthopedic surgical treatment of specific paralysis and anterior poliomyelitis, by F. A. Chandler. Spinal cord, by C. P. Ficker and W. F. Mendenhall. Surgery of the intracranial nerves, by F. C. Grant. Peripheral nerves, by R. G. Spaulding. The autonomic nervous system, by R. H. Standish. Gynecological surgery, by J. V. Meigs and L. Parsons. The male prostatic-urinary system, by D. E. Ross. Index.

Notes: A broad presentation edited by the head of the Department of Surgery of the College of Medicine of the University of Illinois and written by eminent surgeons of the United States of America and Canada. Each of the papers or chapters is essentially a short monograph in which most of the space is given to explicit descriptions of technique but which contains background information on anatomy and physiology usually some information on the history of the operation and also literature references. Together, the two books contain over 900 figures of which few are reproduced in color.

COLE WARREN HENRY AND ROBERT ELMAN

Textbook of general surgery. Foreword by Evans A. Graham. Sixth edition. New York: Appleton-Century-Crofts, Inc., 1952. 1154 p. illus. 24 cm. \$12.50 1350

Contents (abbreviated): Inflammation and repair. Acute surgical infections. Ulcer, gangrene, abscess, fistula. Surgical methods. Anesthesia. Wounds. Anesthetics. Surgery in diabetes. Shock and hemorrhage. Thermal, chemical and electrical trauma. Fractures, dislocations and sprains. Blood transfusion. The lymphatic system. The nervous system. Liver, gallbladder, pancreas and spleen. The alimentary tract. The peritoneal cavity. Hernia. Surgical diseases of the chest, by R. A. Graham and T. H. Barlett. The endocrine glands. Gynecology. Military surgery, by F. R. Barry. Index of authors. Index of subjects.

Notes: (1157) A standard textbook for medical college courses. It covers the physiological and pathological basis of surgery and describes the main surgical diseases with emphasis on their etiology and clinical manifestations. The treatment of each disease is also outlined and non-surgical therapies are considered along with surgical ones. Numerous inserted in the text lead the reader to chapters of interest. Illustrations follow discussions of particular therapies and in some. The fifth edition was published in 1934. Important through moderate revisions and additions were made in preparing this edition. The revised and added material relates to such fields as thoracic surgery, cardiac surgery, gastrointestinal surgery and venous surgery.

CUTLER, ELLIOTT CARL, AND ROBERT M. ZOLLINGER

Atlas of surgical operations. Second edition. Illustrated by Mildred B. Coddling. New York: The Macmillan Company 1949. 225 p. illus. 38 cm. \$12.00 1351

Contents (abbreviated): A. General considerations. Surgical technique. Anesthesia. Preoperative and postoperative care. B. Surgical operations. Neck. Chest. Abdominal wall. Gastro-intestinal system. Pleurothoracic space. Spleen. Gynecological system. Extracranial. Genito-urinary system. Central nervous system.

Notes: (1159) In this work the common surgical operations are described by means of brief text and fairly detailed drawings arranged in sequence for each operation. The book is made up so that the drawings are on right-hand pages and the explanatory text is on facing left-hand pages. It is not a work for specialists but it is useful also for advanced medical students, young surgeons, and general practitioners during occasional surgery. In the present edition 30 procedures have been added. New illustrations are of cases included for them and in addition many of the illustrations that were in the original edition have been redrawn.

Vagal respiratory Vagal cardiac. Gastrointestinal autonomic innervation. Pulmonary control. Index.

Note: A monograph for clinicians and teachers, describing and analyzing complications that may arise during surgery. It covers problems that occur during clinical anesthesia; considers the pharmacology, physiology and pathophysiology involved in these problems; and indicates the proper treatment for various conditions. The author emphasizes the importance of knowledge of basic physiology and pharmacology. Bibliographical references are printed at the end of each chapter.

CLEMENT, FREDERICK WALTER

Nitrous oxide-oxygen anesthesia. Third edition, thoroughly revised with 129 illustrations. Philadelphia. Lea & Febiger 1951. 369 p. illus. 24 cm. \$6.50 1367

Contents (abridged) Part I, General considerations: Properties and mechanisms of gases. Theory of nitrous oxide-oxygen anesthesia. Signs of nitrous oxide-oxygen anesthesia. Metabolism and pharmacokinetics. Cloning and shock. Classification of patients. Part II, The administration of N_2O-O_2 anesthesia: The gas apparatus. Rebreathing. Obstruction, shunts and anastomosis. Nitrous oxide-oxygen and curare. Oxygen wash-oxygen steam-circulation. Part III, Special techniques: Primary and secondary anesthesia. Pressure. Carbon dioxide absorption. Endotracheal anesthesia. Part IV, Summary of N_2O-O_2 anesthesia. Advantages and disadvantages of N_2O for anesthesia. Comparison of nitrous oxide-oxygen with other general anesthetics. Part V, Dental anesthesia analysis. Part VI, Some physical factors in the administration of general anesthesia. by E. L. McKenna, Index.

Note: (1941) The standard treatise on this kind of anesthesia. The author is associated with the late E. L. McKenna played considerably part in its development. The first two editions of the book were largely limited to covering the McKenna-Chambers technique; but in this considerably expanded edition the whole subject is covered, including the advances in the fundamental knowledge of anesthesia and the modifications in technique which have taken place in recent years. The book is of interest not only to anesthetists but also to surgeons and to dentists. Numerous references are included.

COLLINS, VINCENT J

Principles and practice of anesthesiology 99 illustrations. Philadelphia. Lea & Febiger 1952 528 p. illus. 24 cm. \$10.00 1368

Contents (abridged) Section I, General considerations: History and scope of anesthesiology. Anesthetic equipment and its maintenance. Positioning of patients. Preanesthetic preparation and preanesthetic laboratory techniques. Carbon dioxide absorption. Endotracheal technique. Curare—an adjunct to anesthesia. Principles of spinal anesthesia. Intravenous anesthesia. Rectal anesthesia. Refrigeration anesthesia. Epiglottitis and its therapy. Respiration—transformation of physiologic gases. Section II, Regional techniques: Effects of the head. Effects of cervical spinal nerves. Extracranial blocks. Miscellaneous blocks. Section III, Pharmacologic considerations. Section IV, Complications: Respiratory decompensations. Anesthetic reflexes. Cardiac arrhythmias. Complications of spinal anesthesia. Temperature regulation and heat problems. Postoperative complications. The management of patients in coma. Resuscitation. Shock. Section V, Special considerations: Pediatric anesthesia. Anesthesia in the aged. Anesthesia in abdominal surgery. Anesthesia for thoracic surgery. Anesthesia for head and neck surgery. Management of the obstetric patient. Anesthetic management of the cardiac patient. Obstetrical anesthesia and analgesia. Section VI, Intravenous and inhalation therapy. Index.

Note: An book which is one of all phases of anesthesia are covered very completely. It is organized in 64 chapters, some of which are as short as 40 pages. However, most chapters are supplemented by selected but fairly extensive lists of literature references. Indexation is included not only on all the established anesthetic drugs and techniques but also on the history of anesthesia, pertinent aspects of clinical medicine and of pharmacology pre- and post-operative complications of anesthesia, blood transfusion, laboratory therapy etc. The book is suitable for use as a text in anesthesiology courses and as a reference book by graduate physicians. The author is Director of the Department of Anesthesiology of St. Vincent's Hospital, New York City.

CULLEN STUART CHESTER

Anesthesia in general practice. Third edition. Chicago. The Year Book Publishers,

Inc. 1951 292 p. illus. 21 cm. (The general practice manuals) \$4.50 1369

Contents: Use of depressant drugs. Airway. Inhalation anesthesia—agents. Inhalation anesthesia—technique. Spinal anesthesia. Regional, infiltration and topical anesthesia. Signs of anesthesia. Choice of anesthetic agent and technique. Preanesthesia and treatment of shock. Oxygen therapy. Pre- and post-anesthetic care of the patient. Epiglottitis. Larynx. Appendix. Anesthetic agents available for office use. Index.

Note: (1951) A short manual addressed to general practitioners and part-time anesthetists rather than to specialists. Although the chief anesthetic drugs are described, the emphasis is on basic principles and standard techniques. The second edition was published in 1948. In this edition the first chapter has been extensively revised and new prominent changes have been made at various points in the other chapters. The length of the book has been increased by about 30 pages.

GRAUBARD DAVID J, AND MILTON C. PETERSON

Clinical uses of intravenous procaine. Springfield Illinois. Charles C Thomas 1950 104 p. illus. 22 cm. (American lecture series. Publication no 73 A monograph in American lectures in anesthesiology edited by John Adriani) \$2.50 1370

Contents: Introduction. Chemistry and pharmacology. Intravenous local anesthetics. Procaine. Barbiturates and other status of anesthetic. Anesthetics in burns and postoperative pain. Acute arrhythmias during anesthesia. Procaine in traumatic and inflammatory conditions. Acute salivary glanditis. Other indications. Index to authors.

Note: Rather than a brief survey based on selection of the pertinent literature, this work is a comprehensive review of its subject. The text is very concise; nevertheless the essential data in the source articles are stated. Some excerpts of case histories are included. The bibliography appended to the chapters are recommended in scope. About 140 names appear in the author index, indicating the extensiveness of the literature coverage.

GUIDEL ARTHUR ERNEST

Inhalation anesthesia: a fundamental guide. Second edition. New York. The Macmillan Company 1951 143 p. illus. 22 cm. (Macmillan surgical monographs) \$3.75 1371

Contents: Part I, Principles of inhalation anesthesia. Mechanisms of inhalation anesthesia. Signs of anesthesia. Signs of anesthesia. Depth of anesthesia. The mechanism of various anesthetic agents. Part II, Anesthetic techniques: Accidents due to changes in blood pressure during anesthesia. Ventricular fibrillation. Central respiratory failure. Accidents due to peripheral respiratory insufficiency. Application of drugs. Miscellaneous accidents. Cerebral anesthetic epidemics. Selected references. Index.

Note: (1941) A concise, authoritative guide addressed to students and teachers in medical colleges, nurses, physicians and surgeons as well as to anesthesiologists. Special attention has been given to describing the signs of anesthesia. The anesthetic requirements for various operations are stated explicitly. The second part, which is devoted to anesthetic accidents, constitutes half of the book. Although few cases are discussed, this part contains mainly descriptions of techniques and precautions that guard against accidents.

WATERS RALPH MILTON editor

Chloroform: a study after 100 years. Madison. The University of Wisconsin Press 1951 138 p. illus. 22 cm. \$2.75 1372

Contents: The effect of chloroform on hepatic function, by O. R. Orth and others. The effect of chloroform on renal function, by O. R. Orth and R. B. Cohen. The effect of chloroform on the cardiovascular system, by O. R. Orth and others. A clinical evaluation of chloroform, by M. A. Chittenden. Chloroform in blood and expired atmosphere, by L. M. Morris. Conclusions, by R. M. Waters. References. Index.

Note: The results of most of planned studies of chloroform as an anesthetic drug are reported in this short but valuable book. The studies were arranged so that they were made of an old drug rather than a new one. Some of the studies were conducted on

SURGERY

GENERAL

AMERICAN COLLEGE OF SURGEONS

Surgical forum. Proceedings of the forum sessions thirty-seventh clinical congress of the American College of Surgeons San Francisco California, November 1951 Surgical forum committee Owen H. Wangenstein and others Philadelphia W B Saunders Company 1952 667 p illus. 25 cm. \$10.00 1345

Contents (abridged) The lungs and emphysema: Evaluation of chest suction with an artificial thorax, by R. E. Howe, Jr. A method for the production of reversible endobronchial obstruction in dogs, by C. H. McCroskey and others. The effects of hemorrhage and intravenous and intra-arterial infusion upon respiration and the volume of blood in the lungs, by R. Wilson and A. F. Reid. Endobronchial oxygen: comparative studies of intrathoracic malignancies utilizing radioactive phosphorus, by K. P. Klaus and others. The effect of streptokinase and streptodornase on wound healing in pulmonary infection, by G. Cretchi and others. The stomach and spleen: An experimental study of the effect of heparin and streptase upon gastric secretion and peptic ulceration, by H. M. Richter and L. H. Savage. The effect of radium from radioactive iodine on gastric secretion, by J. F. Fourn and others. The use of ACTH in hyperemesis, by P. C. Kierman and O. B. Haxel Jr. The intestine: The experimental use of hydrocortisone in the prevention of intestinal adhesion, by J. E. Connelley and V. Richards. Influence of size of meals and frequency of feeding on motility of the small intestine, by P. H. Schwartz and others. Experimental studies on closed colon loops, by A. W. Ulls and others. Suture strength and healing strength of end-to-end and intestinal anastomosis, by W. M. Falters and others. The liver and portal system: Studies on the hepatic circulation in the *Mus musculus* monkey and in man, by C. G. Child and others. Studies of hepatic response to changes in blood supply, by W. K. Mennett and others. Reciprocal hydraulic relationship between the portal and caval systems—its application to the problem of section, by E. Lefevre and others. The effect of division of bile or venous parts of the liver, by C. Liska. The role of concentration of bile in toxicity, by J. R. Johnson. The heart: A physiologic evaluation of the surgical treatment of aortic stenosis, by H. Hallgren and others. A cinematographic study of the function of the aortic valve in situ, by A. Karmovitz and others. Hemodynamic heart grafts—transplantation of the heart in dogs, by R. Mearns and others. The maintenance of circulation by cross-transfusion during experimental operations on the open heart, by E. Kerr and others. Practical exposure to normal experimental surgical procedures within the left heart, by G. H. A. Clowes, Jr. Blood vessel system and blood flow: Lung (anastomosis) and the femoral grafts, by J. Asano and others. Early results of experimental studies of the action of high intensity electron on aortic aneurysms, by K. K. J. Hal and others. Aortic ligatures—should the vessel be ligated too? by E. Burns and others. The retractorium (clipping of whole blood on contact with stainless steel), by C. W. Walker and others. Dural sinus studies in relation to radical operations of the neck, by A. J. Aulay and others. The influence of ACTH on venous thrombosis, by E. O. Nelson. Experiments with normally circulating fibrinolytic enzyme in surgical clots, by R. R. Margolis and J. P. Pratt. The uterine tract: The effect of antihemorrhagic on tissues of the human testis and prostatic gland, by C. E. Froland and C. R. Ripstein. Methods of development of electrolyte imbalance in experimental anastomosis, by J. Lapides. Experimental pancreatography—an experimental study, by D. B. Hensley and others. Nephrology and surgery: The absorption of the carbonaceous fluid—studies with radioactive phosphorus (^{32}P), by L. Mason and J. E. Adams. The effect of cortisone and ACTH on secretion by the brain and peripheral nerves, by E. Reddy and others. Air emboli: Compensating operations on the brain and spinal cord, and maneuvers to prevent them, by R. J. Jones. Treatment of hydropneumothorax by direct chest from vertebra to jugular vein, by F. E. Nelson and E. B. Spitz. Orthopedics: Human electromyogram, by M. Lurie and B. Felshtain. Experimental study of the fate of bone grafts, by C. Campbell and others. A preliminary report on studies of basic

calcium phosphates in bone replacement, by R. D. Ray and A. A. Ward, Jr. Experimental increase in leg length—a preliminary report, by C. L. Wilson. Repair and regeneration: An experimental method for the study of skin anastomosis, by P. Randall and others. The effects of ACTH and cortisone on experimental skin anastomosis, by P. Randall and others. The effect of cortisone on wound healing, blood regeneration and growth, by R. Haley and J. Y. Lee. Bone observations on connective tissue growth and bone culture in relation to kidney formation—a preliminary report, by D. W. Johnson and others. Evaluation of the exposure method in the treatment of burns, by R. J. Philadel and others. The prevention of infection in the chest and the pericardium by cortisone, by R. E. Schenck and others. The topical use of streptokinase-streptodornase in infected and necrotic lesions, by R. L. Talcott and others. The endocrine: Studies on the control of salt regulating adrenal hormones, by R. Zimmerman and M. M. Schenck. Effect of xanthine oxidase on experimental pancreatitis, by J. D. Palmer. Physiological studies on the natural pancreatic secretion in man, by J. M. Brown and others. Body fluid and electrolyte, blood, urine and sweat: The turnover rate of body water in the human, by H. E. Bailey and others. The use of radioactive labeled sodium serum albumin (B1234) for clinical total blood volume studies, by J. E. Auer and others. A new approach to field and electrolyte therapy, by A. Hirska and others. The electrolyte and osmotic of osmotic agents in hemorrhagic shock, by T. M. Cline and others. Comparative effectiveness of certain venous substances in maintaining plasma volume after blood loss, by R. C. Kautzman and others. Index.

Note. Original papers based on recent experimental investigations, on advances in the knowledge of chemistry in early developed surgical techniques, etc., prepared for the congress annual the volume this have been collected in this book. Although 114 papers are reprinted in full and many others are represented by abstract. The original length of an individual paper is about five and six pages long, but in this small space most authors have succeeded in giving enough information to enable readers of the volume to judge whether the process or technique under discussion is of value to him. Most of the papers are supplemented by literature references and illustrations.

ANSON BARRY JOSEPH AND WALTER G. MADDOCK

Callander's surgical anatomy Third edition with 929 illustrations. Philadelphia. W B Saunders Company 1952 1074 p. illus. 246 cm. \$14.00.

Contents (abridged) Part I. The head. Part II. The neck. Part III. The thorax. Part IV. Abdomen. Part V. The pelvis. Part VI. Female perineum. Male perineum and external genitalia. Part VII. Female perineum and external genitalia. Part VIII. The vertebral column, vertebral canal, and spinal cord. Part IX. Upper extremity. Part X. Lower extremity. Index.

Note (1951) One of the standard American texts for medical college students preparing for surgery. The primary emphasis is on surgical anatomy but the basic material is carefully related to surgical techniques and to related topics such as mechanics. The preceding editions appeared in 1919 and was the work of Dr. C. L. Callander. In this edition the work is substantially enlarged and there are many new illustrations. The authors are members of the faculty of Northwestern University Medical School.

BLAND JOHN H.
The clinical use of fluid and electrolyte. Illustrated. Philadelphia W B Saunders Company 1952 259 p. illus. 28 cm. \$6.50. 1347

Contents. Basic physiologic considerations of body fluid and electrolyte. "Pure" and mixed water and salt balance disorders. Water and electrolyte in congestive heart failure. Mineral and electrolyte metabolism. Water and electrolyte in patients with normal potassium metabolism. Water and electrolyte in patients with renal disease. Water and electrolyte in renal disease.

field and electrolysis in diabetes mellitus. Field and electrolysis in adrenal cortical insufficiency. Adverse effects of heat on body water and electrolysis. ACTH and cortisone—physiologic effects in body fluid and electrolysis. Behavior of body water and electrolysis in shock, burns, crush and blast injury. Immunity, irradiation and exposure to cold and other stress.

Notes: Current knowledge of the interrelationships of body fluid and electrolysis is in this work summarized and interpreted for the benefit of general practitioners of medicine, chemists, and those who are concerned with the pre- and post-operative care of surgical patients. The basic knowledge and the experimental and clinical observations on which it is based are adequately covered, but the emphasis is on the aspects that have practical application in diagnosis and treatment. Statements in the text are reinforced by brief discussions in the literature. However, explicit information is given on diets, medicines, drugs and changes in the book itself. The author is a member of the faculty of the College of Medicine of the University of Vermont.

CHRISTOPHER, FREDERICK

A textbook of surgery by American authors. Fifth edition. 1465 illustrations on 742 figures. Philadelphia W B Saunders Company 1950 1550 p. illus. 27 cm. \$13.50. 1348

Contents (abridged): Inflammation and wound healing. Shock; anaphylaxis and anaphylaxis; water and electrolysis balance. Bacteriology and chemotherapy. Bacteriology, lesions and virus diseases. Thermal, chemical, electrical and irradiation injuries. Fractures, dislocations and burns. Tendons, tendons sheaths and skeletal spaces. Infections and wounds of bones and joints. Fractures. Dislocations. Deformities. Paralytic disorders. Anomalousities of bones and joints. Anomalousities and prostheses. The nervous system. The lymphatic system. The vascular system. The lymphatic system. The skin and adjacent tissues. The hand. The neck. The breast. The thoracic wall, pleura and lungs. The heart and pericardium. The mediastinum, including the esophagus. The abdominal wall. The peritoneum. The stomach and duodenum. The small and large intestine. Anal canal and rectum. The true and false urinary system. The prostate, bladder. The reproductive system. Gynecology. Military surgery. Plastic surgery. Anesthetics. Surgical asepsis. Preoperative and postoperative care. Resuscitation. Anesthesia. Index.

Notes: (11157) A standard and widely used medical college textbook. The chapters have been written by eminent surgeons and teachers of surgery and each man has covered a branch of surgery in which he is recognized as an expert. In the present edition there are 220 chapters or subsections written by 197 authors. Chapters are devoted to such specific topics as surgical treatment for congenital obstructive of the bile ducts. In general for each disease several the surgical pathology, symptoms, diagnosis and medical and surgical treatment are carefully discussed. In some instances medical treatment is emphasized. Not all surgical techniques are covered but several leading ones are described for specific diseases. The fourth edition was published in 1943. Approximately 20 new sections have been added in this edition and about 2000 sections added over have been extensively revised. Recent literature has been carried on to the limits of reference.

COLE, WARREN HENRY editor

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Laughlin. Acute vascular injuries, by M. E. DeBakey. Traumatic aneurysm and arteriovenous fistula, by D. Ellis. Vascular trauma, by M. E. DeBakey. Surgery of the hand and its tendons, by E. E. Allen and E. L. Koch. The skin and subcutaneous tissue, by F. Allen. Index. Volume II. Specialty surgery. Laryngology, by A. O. Whipple. Plastic surgery, by F. W. Grimes. Thoracic wall, pleural cavity, lungs and diaphragmatic hernia, by J. M. Dwyer. The heart and mediastinum, by C. E. Beck. Fractures, by J. A. Kay. Neurosurgery, osteomyelitis, by F. Dickson. Deformities and neoplasms of the bone, by C. E. DeBakey. Surgical approaches to the joints, by L. C. Abbott and others. The orthopedic surgical treatment of specific paralysis and muscle pathologies, by F. A. Chandler. Scoliosis and kyphosis, by H. A. Brown and H. C. Maklender. The spinal cord, by C. Fisher and W. F. Mackenzie. Surgery of the intracranial nerves, by F. C. Grant. Peripheral nerves, by A. G. Spurling. The autonomic nervous system, by R. H. Smithwick. Gynecological surgery, by J. V. Meigs and L. Packer. The male pseudo-hermaphrodite, by D. K. Ross. Index.

Note: A bound presentation edited by the head of the Department of Surgery of the College of Medicine of the University of Illinois and written by eminent surgeons of the United States of America and Canada. Each of the papers or chapters is essentially a short monograph in which most of the space is given to explicit descriptions of techniques but which contains background information on anatomy and physiology usually more information on the history of the operation and the literature references. Together the two books contain over 600 figures of which few are reproduced in color.

COLE, WARREN HENRY AND ROBERT ELMAN

Textbook of general surgery. Foreword by Evans A. Graham. Sixth edition. New York Appleton-Century-Crofts, Inc., 1952 1154 p. illus. 24 cm. \$12.50. 1350

Contents (abridged): Inflammation and repair. Acute surgical infections. Ulcer, abscesses, scars, fistulae. Surgical medicine. Anesthetics. Wound, anastomosis, surgery in diabetes. Shock and hemorrhage. Thermal, chemical and electrical injuries. Fractures, dislocations and sprains. Blood vessels. The lymphatic system. The nervous system. Liver, gallbladder, pancreas and spleen. The alimentary tract. The peritoneal cavity. Hernia. Surgical diseases of the chest, by R. A. Graham and T. H. Barlett. The endocrine glands. Gynecology. Military surgery by F. E. Barry. Index of authors. Index of subjects.

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CUTLER, ELLIOTT CARR, AND ROBERT M ZOLLINGER

Atlas of surgical operations. Second edition. Illustrated by Mildred B. Coddling. New York The Macmillan Company 1949 225 p. illus. 38 cm. \$12.00 1351

Contents (abridged): A. General considerations: surgical technique. Anesthesia. Preoperative and postoperative care. B. Surgical operations. Chest. Abdominal wall. Gastro-intestinal system. Pleuro-lung disease. Spleen. Gynecological system. Rectroanal. Genito-urinary system. Central nervous system.

Notes: (11157) In this work the common surgical operations are described by means of a brief text and fully detailed drawings arranged in sequence for each operation. The book is made up so that the drawings are on right hand pages and the explanatory text is on facing left hand pages. It is not a work for specialists but it is useful as for advanced medical students, young surgeons, and general practitioners doing occasional surgery. In the present edition 30 procedures have been added. New illustrations are of course included for these and in addition many of the illustrations that were in the original edition have been redrawn.

thopedic surgery, Alfred R. Shands. Baltimore The Williams & Wilkins Company 1952 430 p. illus. 26 cm. \$12.50 1356

Contents: The radical surgery of prostatic-urethral cancer by A. O. Whitman. Esophageal lesions in the diagnosis and treatment of thyroid disease, by G. M. Curtis and C. V. Murchioch. The management of acute chest injuries, by R. Blades and R. C. Garby. Urinary incontinence in the female: Introduction, by J. V. Males. The etiology of urinary stress incontinence in women, by R. E. Mearns. Operative technique for stress incontinence of urine in the female, by W. T. Kennedy. The vaginal approach in the surgical treatment of stress incontinence, by L. F. Frost. Transplantation of fascia for relief of urinary stress incontinence, by H. M. Aldridge. The use of the pubococcygeal muscles in the repair of stress incontinence, by A. Japaneau-Sandberg. Physiology of urinary stress incontinence, by A. H. Kegel. The internal fixation of fractures of the shafts of long bones, by G. W. M. Kugel. Intracapsular fracture of the femoral neck—their care and complications, by E. R. Schatzle and others. Aseptic (avascular) necrosis of the femoral head in adults, by W. Cooper. Arthroplasty, by R. A. Knight. Congenital ureteral and pelvic dilatation as evidence of obstruction, by F. Himmels, Jr. Renal neoplasms, by W. P. Whitman. Surgery of the large arteries, by M. K. Freeman and others. Index.

Note: This third volume in a series which is designed to replace Males's *Lower End Surgery* contains the monographs noted above. Each volume of the series contains new monographs on selected topics in surgery. The typical monograph is a critical survey of the techniques and practice in a specific area of surgery. The purpose of the series is to make information on new techniques and experience generally available to surgeons. A third use is made of *Illustrations for instance, Kugel's monograph on the "Internal fixation of fractures of the shafts of long bones" in the present volume contains 44 figures. Literature references are furnished with each monograph.*

MOORE, FRANCIS D AND MARGARET R. BALL

The metabolic response to surgery. Metabolic diagrams by Mildred B. Coddling. Springfield Illinois Charles C Thomas, 1952 156 p. illus. 29 cm. (American lecture series. Publication number 132. A monograph in American lectures in surgery edited by Michael E. De Bakey and R. Glen Spurling) \$7.50 1357

Contents: Techniques—subjects and methods; presentation and discussion; terminology and interpretation. The response to single trauma. The discussion: being separate consideration of starvation, hemorrhage and endocrine factors in the operative response. Further response to trauma and depletion. Complex problems in metabolic response. Changing the balance. Facts and confusions: being summary of the book, together with clinical correlations which may be drawn in applying these concepts to the care of surgical patients. Appendix: Surgical diets and parenteral supplements. Bibliography.

Note: A work based partly on original studies made by the authors at Peter Bent Brigham Hospital and Massachusetts General Hospital, Boston, and partly on the literature. The original studies were made on "everyday surgical patients" with the use of healthy persons for control studies. The book is addressed to practicing surgeons and its purpose is to provide authoritative information on the metabolic factor in the response of patients to surgery. It includes neither full discussion of variety of case material. The last chapter in which the knowledge is compactly summarized is read of features. The bibliography runs to 18 columns and includes not only literature cited in the text but also other studies which the authors believe have potential usefulness for their readers.

MOYER, CARL A.

Fluid balance a clinical manual. Chicago The Year Book Publishers 1952 191 p. 18 cm. 1358

Contents: Early studies on body fluids. Chemistry of body fluids. Body fluid equilibrium. Disturbances of body fluid equilibrium. Evaluation of diagnostic signs of fluid imbalance. Clinical and laboratory signs of changes in fluid volume and sodium concentration. Diagnosis of changes in body composition of body fluids. Electro-

lytical shift of extracellular fluid. Descriptive diagnosis of fluid imbalance. Treatment of fluid imbalance. Role of fluid therapy in surgical patients and in trauma. Complications of parenteral fluid therapy. Index.

Note: A short but useful volume on the diagnosis and treatment of fluid and electrolyte imbalances. There is some emphasis on the rapid interpretation of signs and symptoms. Lists of literature references are included. The author is Professor of Surgery in the School of Medicine of Washington University.

ORR, THOMAS GROVER

Operations of general surgery. Second edition. With 1700 step-by-step illustrations on 721 figures. Philadelphia W B Saunders Company 1949 890 p. illus. 27 cm. \$14.50 1359

Contents: Wound healing. Treatment of fresh wounds. Scarred and healed. Amputations. The skin and skin-related tissues. Muscle, fascia, and bone. Tendons and tendon sheaths. Thorax and respiratory system. The breast. Circulatory system. Abdominal incisions. Digestive system. Uterus. Bones and joints. The nervous system. The sympathetic nervous system. Lymphatic system. Endocrine system. Genitourinary system. Gynecology system. Female reproductive system. Index.

Note: (1932) A successful textbook for students in medical colleges and useful for practicing surgeons. Surgical techniques is of course the main subject matter but surgical anatomy, diagnosis, and management, as well as other practical information, are included also. All surgical techniques are not described; instead, only one or two proven techniques for each operation are given. The illustrations are of high quality and include a number of step-by-step sequences. The first edition was published in 1944. In the present edition the work has been enlarged by 160 pages and the number of illustrations substantially increased. Additions have been made to the chapter bibliographies.

SCHAFER, PAUL W

Pathology in general surgery. With 495 plates. Chicago The University of Chicago Press 1950. 581 p. illus. (part col'd) 27 cm. (The University of Chicago Committee on Publications in Biology and Medicine, edited by Lester R. Dragstedt and others) \$17.50 1360

Contents: Principles and general aspects. Vascular system. Endocrine glands. Breast. Lung and mediastinum. Head and neck. Esophagus. Stomach. Duodenum and small intestine. Appendix, colon, and rectum. Pancreas. Liver. Gall-bladder and bile ducts. Peritoneum. Index.

Note: The pathology of diseases usually treated by surgery is the subject of this book. The author points out that the duty of a surgeon is "to follow revealed themes into the laboratory there to determine their gross and microscopic character. Such clinical pathological correlations not only represent the basis for improvement in the practice of medicine, but should also be regarded as the reference point from which may be derived surgical concepts as vital to the continued advance of the frontiers of medical knowledge. The chapters whose titles are listed above are subdivided by specific diseases. For example, the chapter on the pancreas has the following subheadings: "Pancreatic cysts," "Acute pancreatitis," "Chronic pancreatitis," "Islet-cell tumors," "Carcinomas of the pancreas," and "Lesions of the pancreas." Each individual disease is discussed in several pages of text, which are accompanied by large illustrations of typical pathological specimens. There are 495 plates and more than half are reproduced in color. Literature references are included.

SURGICAL CLINICS OF NORTH AMERICA

Symposium on safeguards in surgical diagnosis. Philadelphia number Philadelphia W B Saunders Company 1952 1563-1903 p. illus. 23 cm. (Surgical clinics of North America Inc., December 1952) Paper \$15.00 per year cloth, \$18.00 per year 1361

Contents: Foreword, by J. H. Odell, Jr. Extracranial aneurysm—surgical diagnosis and treatment, by R. J. Long. Neurosurgery—

Vagal respiratory Vagal cardiac Gastrointestinal autonomic reactions. Pulmonary control. Index.

Note: A monograph for clinicians and teachers, describing and analyzing complications that may arise during surgery. It covers problems that occur during clinical anesthesia, considers the pharmacology, physiology and patho-physiology involved in these problems, and indicates the proper treatment for various reactions. The author emphasizes the importance of knowledge of basic physiology and pharmacology. Bibliographical references are printed at the end of each chapter.

CLEMENT FREDERICK WALTER

Nitrous oxide-oxygen anesthesia. Third edition, thoroughly revised, with 129 illustrations. Philadelphia Lea & Febiger 1951 369 p. illus. 24 cm. \$6.50 1367

Contents (abridged): Part I, General Considerations: Properties and manufacture of gases. Theory of nitrous oxide-oxygen anesthesia. Signs of nitrous oxide-oxygen anesthesia. Metabolism and excretion. Charting and shock. Classification of patients. Part II, The administration of N_2O-O_2 anesthesia: The gas apparatus. Rebreathing. Obstruction, always and obstruction. Nitrous oxide-oxygen and gases. Oxygen wash-oxygen space-cyanosis. Part III, Special techniques: Primary and secondary anesthesia. Premedication. Carbon dioxide absorption. Endotracheal anesthesia. Part IV Summary of N_2O-O_2 anesthesia: Advantages and disadvantages of N_2O for anesthesia. Comparison of nitrous oxide-oxygen with other gaseous anesthetics. Part V Dental anesthesia technique. Part VI, Some physical factors in the administration of gaseous anesthetics. by L. L. McKenna. Index.

Note: (1611) The standard treatise on this kind of anesthesia. The author is associated with the late R. L. McKenna played considerable part in its development. The first two editions of the book were largely limited to covering the McKenna-Clement techniques; but in this considerably expanded edition the whole subject is covered, including the advances in the fundamental knowledge of anesthesia and the modifications in technique which have taken place in recent years. The book is of interest not only to anesthetists but also to surgeons and to dentists. Literature references are included.

COLLINS, VINCENT J

Principles and practice of anesthesiology 99 illustrations. Philadelphia Lea & Febiger 1952 528 p. illus. 24 cm. \$10.00 1368

Contents (abridged): Section I, General considerations: History and scope of anesthesiology. Anesthetic equipment and its maintenance. Positioning of patients. Preanesthetic preparation and premedication. Inhalation technique. Carbon dioxide absorption technique. Endotracheal technique. Cerebro-vascular system to anesthesia. Principles of spinal anesthesia. Intravenous anesthesia. Rectal anesthesia. Rebreathing apparatus. Rebreathing and its hazards. Rebreathing-transpiration of physiologic gases. Section II, Regional techniques: Blocks of the head. Blocks of cervical spinal nerves. Extremity blocks. Macintosh blocks. Section III, Pharmacologic considerations. Section IV, Complications: Respiratory depressions. Anesthetic reflexes. Cardiac arrhythmias. Complications of spinal anesthesia. Temperature regulation and heat problems. Postoperative complications. The management of patients in crisis. Resuscitation. Shock. Section V, Special considerations: Pediatric anesthesia. Anesthesia in the aged. Anesthesia in abdominal surgery. Anesthesia for thoracic surgery. Anesthesia for head and neck surgery. Management of the diabetic patient. Anesthetic management of the convulsant patient. Obstetrical anesthesia and analgesia. Section VI, Intravenous and inhalation therapy Index.

Note: An inclusive work in which all phases of anesthesia are covered very completely. It is organized in 64 chapters, most of which are as short as 10 pages. However, most chapters are supplemented by selected but fairly extensive lists of literature references. Bibliography is included not only on all the established anesthetic drugs and techniques but also on the history of anesthesia, pertinent aspects of clinical medicine and of pharmacology pre- and post-operative complications of anesthesia, blood transfusion, inhalation therapy etc. The book is suitable for use as text in ecological courses and as reference book by graduate physicians. The author is Director of the Department of Anesthesiology of St. Vincent's Hospital, New York City.

CULLEN STUART CHESTER

Anesthesia in general practice. Third edition. Chicago The Year Book Publishers,

Inc., 1951 292 p. illus. 21 cm. (The general practice manuals) \$4.50 1369

Contents: Use of depressant drugs. Airway. Inhalation anesthesia—agents. Inhalation anesthesia—technique. Spinal anesthesia. Regional, infiltration and topical anesthesia. Signs of anesthesia. Choice of anesthetic agent and technique. Emergence and treatment of shock. Oxygen therapy. Pre- and postoperative care of the patient. Epileptic hazards. Appendix. Anesthetic agents available for office use. Index.

Note: (1182) A short manual addressed to general practitioners and part-time anesthetists rather than to specialists. Although the chief anesthetic drugs are described, the emphasis is on basic matters and standard techniques. The second edition was published in 1948. In this edition the first chapter has been extensively revised and less prominent changes have been made at various points in the other chapters. The length of the book has been increased by about 30 pages.

GRAUBARD DAVID J AND MILTON C PERKSON

Clinical uses of intravenous procaine. Springfield, Illinois Charles C Thomas 1950 104 p. illus. 22 cm. (American lecture series. Publication no 73. A monograph in American lectures in anesthesiology edited by John Adriani) \$2.50. 1370

Contents: Introduction. Chemistry and pharmacology. Intravenous local anesthesia. Procaine. Serum sickness and other states of sensitivity. Anesthetics in burns and postoperative pain. Acute arrhythmias during anesthesia. Prolonged convulsions and intracranial pressure. Acute anterior poliomyelitis. Other miscellaneous. Index in text.

Note: Rather than brief survey based on selection of the pertinent literature, this work is comprehensive review of its subject. The text is very concise; nevertheless the essential data in the source articles are stated. Some transcripts of case histories are included. The bibliography appended to the chapters are international in scope. About 240 names appear in the author index, indicating the extensiveness of the literature coverage.

GUEDEL, ARTHUR ERNEST

Inhalation anesthesia, a fundamental guide. Second edition. New York The Macmillan Company 1951. 143 p. illus. 22 cm. (Macmillan surgical monographs) \$3.75 1371

Contents: Part I, Principles of inhalation anesthesia: Mechanism of inhalation anesthesia. Signs of anesthesia. Signs of anesthesia. Signs of anesthesia. The mechanism of various specific respiratory agents. Part II, Anesthetic accidents. Accidents due to changes in blood pressure during anesthesia. Ventricular fibrillation. Central respiratory failure. Accidents due to peripheral respiratory lesions. Aspiration of debris. Miscellaneous accidents. Cyanosis. Anesthetic upshots. Selected references. Index.

Note: (1614) A concise, exhaustive guide addressed to students and teachers in medical colleges, nurses, physicians and surgeons as well as to anesthetists. Special attention has been given to describing the signs of anesthesia. The anesthetic requirements for various operations are stated explicitly. The second part, which is devoted to anesthetic accidents, constitutes half of the book. Although few cases are described, the part covers mainly the description of techniques and precautions that guard against accidents.

WATERS RALPH MILTON editor

Chloroform a study after 100 years. Madison The University of Wisconsin Press, 1951 138 p. illus. 22 cm. \$2.75 1372

Contents: The effect of chloroform on hepatic function, by O. S. Orth and others. The effect of chloroform on renal function, by O. S. Orth and E. B. Cohen. The effect of chloroform on the cardiovascular system, by O. S. Orth and others. A clinical evaluation of chloroform, by N. A. Gullipin. Chloroform in blood and inspired atmosphere, by L. E. Martin. Conclusion, by R. M. Waters. References. Index.

Note: The results of studies of planned studies of chloroform as an anesthetic drug are reported in this short but valuable book. The studies were intended to show they were made of an old drug rather than a new one. Some of the studies were conducted on an-

chle. The complications of acute appendicitis. The therapy of acute appendicitis and its complications. Special types of acute appendicitis—acute appendicitis in infancy and childhood—acute appendicitis in middle and late life—appendicitis during pregnancy—traumatic appendicitis. Chronic and recurrent appendicitis in relation to acute appendicitis. Factors of mortality in acute appendicitis. References. Name index. Subject index.

Notes: A comprehensive monograph based chiefly on an extensive experience with surgical cases of acute appendicitis at the Charity Hospital of Louisiana at New Orleans. The author stresses the fact that the disease is far less common and that there is little ground for the complacency with which it is currently regarded by many members of the medical profession. He emphasizes the importance of early diagnosis, and his discussion of diagnosis and differential diagnosis run to almost 80 pages. There are 81 figures and 20 pages list of references.

CALLAHAN ALSTON

Surgery of the eye—injuries. Springfield, Illinois Charles C Thomas, 1950 217 p illus. (part col d) 29 cm. \$12.00. 1378

Contents: Injuries of the cornea, conjunctiva and sclera. Injuries of the iris and ciliary body. Injuries of the lens. Intracapsular foreign bodies. Traumatic separation of the vitreous. Removal of the eye. Lacerations of the eyelids. Injuries of the lacrimal system. Rerouting of the upper lid after removal of the eye. Wiring of the canthi. Punctal lacer. Tuba puncti. Free skin grafts. Orbital reconstruction of the bulb. Traumatic proptosis. Reconstruction of the socket. First tumor of the orbit. Reconstruction of bony orbit. Ophthalmoplegia and ocular palsies. Appendix: Precautions. Index.

Notes: A book of techniques selected on the basis of the author's experience in United States Army ophthalmic center and at the Tidwell-Cater Eye Hospital, Birmingham, Alabama. According to the author various methods were tried on similar cases at the ophthalmic center and therefore an unusual opportunity for comparative evaluation was presented. Generally speaking, in each of the book's chapters there is general discussion and then descriptions of specific surgical techniques. The word descriptions are supplemented by many illustrations, the majority of which were made from photographs of actual cases. Although there are 215 figures and 70 plates reproduced in color. As the title indicates, the book is limited to the topic of injuries.

COLLER, FREDERICK A. AND OTHERS

Indications for and results of splenectomy By Frederick A. Collier Alexander Blain, III, and Gould Andrews. Springfield, Illinois Charles C Thomas 1950 100 p illus 22 cm. (American lecture series. Publication no 86) A monograph in American lectures in surgery edited by Michael E. DeBaakey and R. Glen Spurling. \$2.50 1379

Contents: (Abstract) Chemical material used in study. Essential thrombocytopenic purpura. The hemolytic anemia. Hemolytic spherocytic anemia. Idiopathic acquired hemolytic anemia. Banti's syndrome. Cerebral-hemorrhagic disease. Splenic aneurysms and pseudoaneurysms. Hypoplastic anemia. Erythroblastosis with megakaryocytopenia and atypical nucleated red blood cells. Polycythemia. Fatty spleens. Disseminated lupus erythematosus with splenomegaly and leukopenia. Gaucher's disease. Cysts of the spleen. Splenectomy of microcytosis or unknown etiology. Infectious mononucleosis with splenomegaly. Splenic rupture. Indications for splenectomy. Anasplenic. Accessory spleen. Pathologic features of the spleen. Summary. Bibliography.

Note: A study based on 133 splenectomies performed by the authors during the period 1934-1949. The cases are classified under the headings given above and the experience in each group is summarized. In addition, the authors present the current concepts of normal physiology of the spleen, the rationale for splenectomy in the various disorders of the spleen, etc. There are 16 illustrations and selected bibliography. The authors are members of the Departments of Surgery and Medicine of the Medical School of the University of Michigan.

EVANS JOSEPH PATRICK

Acute head injury Springfield, Illinois Charles C Thomas, 1950 116 p illus. 22 cm. (American lecture series. Publication no 60) A monograph in American lectures in sur-

gery edited by Michael E. DeBaakey and R. Glen Spurling. Neurosurgical division editor Barnes Woodhall. \$2.50 1380

Contents: Introduction. Scalp injuries. Skull fractures. Meningeal hemorrhage. Cerebral trauma. Bibliography. References.

Notes: A practical account of the effects and the treatment of head injuries. Cases that wounds are not included, and the other classes of injuries are considered in four groups as indicated by the chapter titles. Under each heading, surgical treatments are the most logical but other authors such as diagnosis, anesthesia, and treatment of the scalp are discussed also. Several case studies are included in each group. A good bibliography and 24 clear figures of special cases are included.

GURDJIAN ELISHA STEPHENS, AND JOHN E WEBSTER

Operative neurosurgery with emphasis on procedures in trauma. Baltimore The Williams & Wilkins Company 1952 422 p illus. 26 cm. \$10.00 1381

Contents: Head. Craniotomy—historical. Prefrontal craniotomy. Supratentorial and ventricular lesions. Posterior fossa and cranial nerves. Head injury. Spinal. Historical notes on surgery of the spinal cord. Certain points about the vertebral column and vertebral arthroplasty. The spinal cord. Neurosurgical procedures. Anatomical nervous system. Historical considerations. Anatomy and physiology. Surgical management. Neurosurgical procedures. Peripheral nervous system. Historical considerations. Anatomy, physiology and pathology. Principles as surgical technique. Diagnosis of peripheral nerve lesions. Rehabilitation. Neurosurgical procedures. Index.

Note: Throughout most of this volume there is a place of illustrations on right hand page while on the facing left-hand page there is a description and discussion of the techniques illustrated. Altogether there are 129 plates and most of these contain several drawings. Only techniques which have been generally accepted are represented. Extensive bibliographies of papers and other literature pertaining not only to the techniques illustrated but to others are included. The book is suitable for use as a medical college text and also as reference volume for surgeons who are not specialists in neurosurgery but occasionally perform neurological operations, especially in the repair of wounds.

HOERAX GILBERT

Neurosurgery an historical sketch. Springfield Illinois Charles C Thomas 1952 135 p illus. 22 cm. (American lecture series. Publication no 117) A monograph in American lectures in surgery edited by Michael E. DeBaakey and R. Glen Spurling. Neurosurgical Division Barnes Woodhall, editor. \$3.75 1382

Contents: Introduction. Prehistoric and Egyptian era. The Greek or Hippocratic and Galenic period (400 B.C. to circa 800 A.D.) The medieval period (circa 800 to 1500 A.D.) The Renaissance (circa 1500 to 1700 A.D.) The pre-Litton period (circa 1700 to 1844 A.D.) The pre-Horvath period (1844 to 1890 A.D.) The era of neurosurgery as surgical specialty (circa 1890 A.D. to the present day). Conclusions. Bibliography.

Note: This outline history can fairly be designated as neurosurgery's history of neurosurgery. The space is almost evenly divided between accounts of techniques and outstanding developments up to 1890 and the highlights of developments since that year. There are forty figures divided among portraits of great neurosurgeons, pictures of surgical instruments, views of operating theaters, and diagrams of operative techniques. There are 181 references in the bibliography.

JOHNSON JULIAN AND CHARLES K. KIRBY

Surgery of the chest a handbook of operative surgery Illustrated by Edna Hill. Chicago The Year Book Publishers, Inc. 1952 387 p illus. 22 cm. \$9.00 1383

Contents: Introductory considerations. The management of chest injuries. Operations for empyema and lung abscess. Esophageal surgery. Anatomy of the lungs. Postoperative laboratory management.

reactions. Special problems arising during major thoracic operations. Surgery of the esophagus. Surgery of the heart and great vessels. The surgery of pulmonary tuberculosis. Miscellaneous operations. Index.

Note: A compact atlas which contains 41 plates of clear drawings of operative techniques including areas used in diagnosis. The authors have selected techniques of clearly established value and they have described them for general surgeons who are frequently in thoracic surgery or who only occasionally perform operations in this region. The drawings are supplemented by both general and specific discussion. Each plate is accompanied by at least one page of discussion. The authors are members of the faculty of the School of Medicine of the University of Pennsylvania.

KIRBY, DANIEL B

Surgery of cataract. 339 illustrations, including 52 subjects on 21 color plates. Philadelphia J B Lippincott Company 1950 695 p. illus. (part col d) 26 cm. \$30.00 1384

Contents (abridged): Part one, The development of cataract surgery: The early history of cataract surgery. The development of cataract extraction. The theory and the application of the book. Basic sciences applied to cataract surgery by L. S. Brown. Pre-operative examination of the eye and preparation for restoration of vision. Standards for judging the progress or the result of cataract. The non-surgical treatment of cataract. Classification of cataract. Part two, Preparation for cataract surgery. Part three, Present-day cataract surgery. The removal of soft cataract. Intracapsular extraction of cataract. Intracapsular extraction of cataract. The removal of lensed and subluxated lenses. The prevention of complications during and after cataract extraction—also their handling should they arise. Traumatic cataract. After-cataract. Part four, The correction of aphakia. The use of glasses in aphakia. Part five, Results obtained in cataract surgery. Index.

Note: A comprehensive treatment in which the historical background, the pertinent anatomy and embryology and many other related topics are covered in addition to the surgical techniques. Operative methods are not restricted to those which the author uses but include also procedures of other ophthalmologic surgeons. The book is intended for use as a text in graduate courses offered to medical college graduates and as a reference book for graduate surgeons who are beginning to operate in this specialty. The author is Professor of Ophthalmology in the College of Medicine of New York University.

LYONS WILLIAM REGINALD AND BARNES WOODHALL

Atlas of peripheral nerve injuries. Philadelphia W B Saunders Company 1949 339 p. illus. (part col d) 34 cm. \$16.00 1385

Contents: Introduction. The peripheral nerve. Completely severed nerves. Traumatic nerve lesions in continuity. Nerve repairs. Nerve grafts. Addendum. Bibliography. Index.

Note: This work is based on very extensive experience with peripheral nerve injuries among U. S. A. soldiers in World War II. The greater part of the space in the book is occupied by the 133 plates, most of which contain reproductions of several photographs or macrophotographs. Each of the illustrations is described and discussed in short legends on the facing page. The book is of primary interest to neurosurgeons, both those with civilian and those with military practices.

MISTLER, FREDERICK ALBERT editor

Psychosurgical problems. By the Columbia GreyStone Associates, Second Group. New York The Blakiston Company 1952 357 p. 24 cm. \$7.00 1386

Contents: Nature of the project, by F. A. Mistler and M. A. Curry. Hospital management and social evaluation, by M. A. Curry and others. Surgical procedures, by J. L. Pool and others. General medical conditions, including hematological and physiologic findings, by O. H. Glaser and others. Neurology, by W. Cavanaugh and H. H. Merritt. Otology, by M. M. Weiss. Vestibular function and nystagmus, by N. S. Kline. The design of the psychologic investigation, by J. Zelen. Psychometric studies, by D. C. Shaw and M. Shulz. Complex mental functions—memory, learning, mental set, and perceptual tasks, by R. D. Narch and others. Attitude evaluation, by M. Cavanaugh, J. and T. D. Cline. Time-sampling study of behavior, by K. F. Klaser and D. Williams. Psychophysiology, by H. K. Klig and J. Chason. Discussion of psychologic investigations,

by C. Landis and J. Zelen. Report of the psychiatric discipline, by F. H. Hoch and others. Conclusions, by F. A. Mistler and C. Landis. The original Columbia-GreyStone patients (see runs after operations, by J. J. Weber. Bibliography. Index.

Note: A comparison work by Mistler, Fred A., editor, *Problems of the Human Brain, selective partial ablation of the frontal cortex, described above.* It is a detailed study of the effects of several psychosurgical procedures other than lobotomy and prefrontal. "Eighteen patients were operated on as follows: In 17 cases bilateral lesions of the superior cerebral cortex were carried out. In 2 cases bilateral superior lobectomy was performed. In 2 cases thermocoagulation of the cerebral cortex in the frontal portion of each frontal lobe was done, while in the 3 remaining cases lobectomy procedures were carried out. Together the two books present the results of pioneering application of the techniques of operations research analysis to the study of complex problems in therapy."

OVERHOLT, RICHARD HOLLES, AND LAZARO LANGER

The technique of pulmonary resection. Revised second printing. Springfield, Illinois Charles C Thomas, 1951 216 p. illus. (part col d) 24 cm. \$9.50. 1387

Contents: Pre-operative preparation. Operative procedures. General considerations pertaining to all resections. Intrathoracic and hilar surgical anatomy. Specific resections. Post-operative management and complications. Post-resection thoracotomy. Aftermath. Bibliography. Index.

Note: A well-bound treatise for students and general surgeons preparing for thoracic surgery. The techniques described are those actually used by the authors, including their own technique for segmental excision which was first presented in May 1944 before the American Association for Thoracic Surgery. Pulmonary disease and other topics not directly related to surgery are not covered, but the book is limited to those topics of direct concern to the surgeon. The style is direct and explicit and the illustrations are of excellent quality in the "afterward," developments between January 1947 and January 1951 are reviewed concisely.

PRATT GERALD HILLARY

Surgical management of vascular diseases. 181 illustrations. Philadelphia Lea & Febiger 1949 496 p. illus. 24 cm. o.p. 1388

Contents (abridged): Section I, Vascularization and can history. Section II, The arterial system. Occlusive arterial disease. Atherosclerosis. Vascular disease in systemic. Arterial collateral circulation. Ischemia in arterial. Arteriovenous aneurysm or aneurysm. Arterial aneurysm. Arterial thrombosis. Arterial embolism. Surgical management of acute arterial occlusion. Mesenteric disease. Mesenteric disease of the upper extremity. Interruption of the sympathetic system. Hypertension. Arterial disease in the pelvic system. Vascular injury. Arterial disease. Hemorrhage in the pelvic system. Pathologic changes in arterial. Arteriovenous aneurysm. Section III, The lymphatic system. Section IV, Surgery of the heart. Section V, Special techniques (angiography and cardiovascular catheterization). Skin grafting. Surgical treatment of vascular disease. Surgical treatment of congenital disease. Arterial disease and obstructive lesions. Vascular disease and trauma. Index.

Note: In this work the emphasis is on the surgical techniques developed in recent years and on the cardiovascular changes which are common enough to be recommended for general surgeons and general medical practitioners. The style is concise, but both disease and therapy are described explicitly. Extensive but not complete bibliographies are included in the chapters. The author is a member of the faculty of the Medical School of New York City and is Chief of the Vascular Clinic of Saint Vincent's Hospital, City of New York.

ROEN, PHILIP R.

Atlas of genito-urinary surgery. Introduction by Clarence G. Bandler. Illustrations by Charles Stein. New York Appleton-Century-Crofts Inc., 1951 325 p. illus. 25 cm. \$10.00. 1389

Contents (abridged): General principles of urologic surgery. Operations on the kidney. Operations on the adrenal gland. Operations on the testis. Operations on the bladder. Operations on the prostate. Operations on the ureters and urethra. Operations on the penis. Operations on the penis. Index.

Note: This book is arranged so that the right-hand pages contain reproductions of drawings of standard surgical techniques, while the facing left-hand pages contain concise discussions of the drawings and the techniques illustrated by them. In most instances the drawings on one page illustrate all of the surgical steps in particular operations, but in other instances the author has used several successive pages. Drawings are original and are reproduced in admirably large scale. The book is designed for medical college students and for general surgeons; he is not specialist in surgical surgery but who must nevertheless occasionally perform surgical operations. The author is member of the New York Post-Graduate Medical School and the book is based on his long experience in practicing and teaching surgical surgery.

SKLETZ, EMIL

Surgery of peripheral nerves. Art editor Tom Jones, Springfield Illinois Charles C Thomas, 1951 185 p. illus. 29 cm. \$11.50 1390

Contents: Principles and technique of nerve surgery. The hand. The median nerve. Lesions in the hand and wrist for aspects of median and ulnar nerve. The ulnar nerve. The median and ulnar nerve combined. The radial nerve. The axillary nerve. The musculocutaneous nerve. The scapular nerve. The anterior thoracic (pectoral) nerve. The long thoracic nerve. The brachial plexus. The femoral nerve. The sciatic nerve. The foot. The peroneal nerve. The tibial nerve. Injuries to the cranial nerve. Index.

Note: A detailed, fully illustrated presentation of surgical techniques that were largely developed by the author while in the surgical service of the United States Surgeon General's Office. According to statement in the introduction, he personally observed and followed the progress of 2017 peripheral nerve injuries while he was in service at Wakeness Hospital Center, Iowa (then half of the space is devoted to illustrations—reproductions of both drawings and photographs). A considerable number of the illustrations are paired in order to show examples of correct and incorrect technique. The author is now member of the faculty of the School of Medicine of the University of Southern California.

SWEET RICHARD HARWOOD

Thoracic surgery Illustrations by Jorge Rodriguez Arroyo Philadelphia W B Saunders Company 1950 345 p. illus. (part col d) 25 cm. \$10.00. 1391

Contents: Surgical anatomy of the thorax. General technical considerations. Thoracic incisions. Operations on the thoracic wall. Operations concerning the pleural cavity. Operations on the lung. Operations within the mediastinum. Operations on the esophagus. Abdominal operations performed through thoracic incisions. Surgery of the diaphragm. Index.

Note: A manual of established techniques. The book is addressed primarily to general surgeons; nevertheless, such operations included is described in full detail and the verbal descriptions are supplemented by clear drawings, which are based mainly on sketches made of actual operations. In addition to the full descriptions, there is included step-by-step outline of procedure for operations on the thorax. The author is member of the faculty of the Medical School of Harvard University.

TARLOV ISADORE MAX

Plasma clot suture of peripheral nerves and nerve roots—rationale and technique. Springfield, Illinois Charles C Thomas, 1950 116 p. illus. 24 cm. \$6.25 1392

Contents: The need for an improved nerve suture technique. The basis for selecting the most suitable type of plasma for nerve suture. Preparation of nerve stumps for suture. Necessity for using model to suture nerves with clot. Tensionless wire tension suture combined with plasma clot. Suture of the nerve stumps by plasma clot. Suture of nerve grafts. Suture of the cranial spinal nerve roots. The place of plasma clot suture in reparative of the neurosurgeon. Bibliography. Index.

Note: Plasma clot suture techniques are explicitly described in this work. The illustrations include pictures of the latex model and other instruments. The bibliography includes 94 references. The author, plasma worker in the development of plasma clot suture, is Associate Professor of Neurosurgery in the New York Medical College.

VER BRUGOEN, ADRIEN

Neurosurgery in general practice. Springfield Illinois Charles C Thomas, 1952 665 p. illus. 26 cm. \$14.00 1393

Contents: Head injuries. Injury to the cranial base. Intracranial hemorrhage. Chronic subdural hematomas. Head injuries in children. Spinal cord injuries. Peripheral nerve injuries. Herniated nucleus pulposus. Sciatica anterior syndrome and cervical vert. Trigeminal neuralgia. Intractable pain. Diseases of the spinal cord. Spinal cord tumors. Increased intracranial pressure. Cerebral lesions. Cerebral tumors in children. Pulmonary tumors. Separation of the cervical vertebrae. Cerebral vascular diseases. Cerebral. Cerebral. The sympathetic nervous system. Congenital anomalies. Microscopic anatomy. Spinal position. X-ray diagnosis. Miscellaneous. Bibliography. Index.

Note: A practical book on the injuries and diseases of the nervous system which are likely to be encountered in general practice. In addition, few rare conditions, for instance massive extrusions of lumbar intervertebral discs, are included because of the importance of early diagnosis. The book is finally for the general practitioner and is not intended either for the medical college student or for neurosurgeons. It is written in clear style and includes considerable number of illustrated case histories. There is particular emphasis on the symptoms, signs, and diagnostic features of the various common neurological disorders. The author is member of the faculty of the College of Medicine of the University of Illinois.

WALKER, ARTHUR EARL, editor

A history of neurological surgery Editorial committee Robert E. Green, Herbert C. Johnson, and W Eugene Stern. Baltimore The Williams & Wilkins Company 1951. 583 p. illus. 26 cm. \$12.00. 1394

Contents (abridged): Prologues, by D. C. O'Connor and A. E. Walker. Diagnostic procedures, by A. E. Walker. Techniques of cranial surgery, by R. E. Green and W. E. Stern. Techniques of intracranial surgery, by R. E. Green and W. E. Stern. Surgery of the posterior fossa, by R. E. Green. Surgery of the third ventricle, by A. F. Thompson. Surgery of the hypothalamus, by H. C. Johnson. Surgery of the cerebellar lesions, by W. E. Stern. Surgery of craniovertebral lesions, by A. E. Walker. Surgery of cervical vascular anomalies, by H. C. Johnson. Parasympathetic, by R. G. Fisher. Surgery of epilepsy and motor disorders, by C. Marshall. Surgery for pain, by J. V. Corbridge and A. E. Walker. Surgery of the meninges, by R. G. Fisher. Surgery of the spinal cord and ventral columns, by J. W. Matthews. Surgery of the peripheral nerves, by E. M. Brown. Surgery of the autonomic nervous system, by W. J. Kilbourne. Bibliography. Index.

Note: An historical but rather comprehensive account of major surgical specialty. The authors are members of the Division of Neurological Surgery of the Johns Hopkins University and the material was first presented at seminars at that university. The various chapters are based mainly on the published literature and a number of the authors have devoted good deal of her space to the analysis and criticism. However, the historical accuracy of the work was assured by submitting the manuscript to colleagues on medical history before publication. Included but not included in the contents above are short biographical sketches of surgeons who made major contributions to the development of neurological surgery. The bibliography of nearly 2,400 references is valuable feature. There are 153 figures, most of which illustrate surgical techniques of historical interest.

WELCH CLAUDE EMERSON

Surgery of the stomach & duodenum & handbook of operative surgery Illustrated by Muriel McLatchie Miller Chicago The Year Book Publishers Inc. 1951 349 p. illus. 22 cm. \$8.50. 1395

Contents (abridged): Anatomy of stomach and duodenum. Pre and postoperative treatment. Anesthesia. Incisions and closures. Congenital abnormalities. Perforating wounds. Gastroenteric and duodenal. Gastroenteric. Diverticula of the stomach and duodenum. Duodenal hernia. Pyloric stenosis and cardiospasm. Intra-abdominal abscesses. Duodenal and gastric cancer. Gastric cancer. Tumors of the duodenum. Complications of gastric resection. Anesthesia with special changes. Duodenal fistula. Appendix: Manual laboratory values—postoperative data. Bibliography. Index.

Not only U. S. A. Army. The author is Director of Prosthetic Service in the Institute of Physical Medicine and Rehabilitation of New York University-Bellevue Medical Center.

HART VERNON L.

Congenital dysplasia of the hip joint and sequelae (in the newborn and early postnatal life) Springfield, Illinois Charles C Thomas, 1952 187 p. illus. 22 cm. (American lecture series publication number 102 A monograph in American lectures in surgery, division of orthopedic surgery editor Robert P Kelly) \$3.50. 1401

Contents: Introduction. The background. Definition. Etiology. Pathogenesis. Clinical picture. The signs of the hip. Rotational stiffness of the extremities. Psychological education. Roentgen features. Differential diagnosis. Treatment. Summary. References.

Note: The fact that this work was originally prepared for delivery as lectures probably explains its brevity. In effect it is a thorough discussion of not only the historical aspects of diagnostic and operative techniques, but also it contains considerable discussion of the relations between congenital dysplasia of the hip joint and hip disorders in later life. There are 11 figures and bibliography of 141 references. It is addressed to pediatricians, roentgenologists, and general practitioners as well as to orthopedic surgeons.

HASS JULIUS

Congenital dislocation of the hip Springfield, Illinois Charles C Thomas 1951. 405 p. illus. 25 cm. \$13.00 1402

Contents: History. Frequency and economics. Classification and nomenclature. Pathology. Etiology. Symptomatology. Course. Prognosis. Diagnosis. Treatment. Closed reduction. Open reduction. Resection. Prosthetic. (a) Prosthetic. Prosthetic procedures. Summary of treatment. Treatment of the atypical congenital dislocations. Conclusion. Bibliography. Author index. Subject index.

Note: All aspects of congenital dislocation of the hip that are of interest to orthopedic surgery are covered in this substantial monograph. However, the history and other background topics are treated briefly whereas such aspects as pathology are treated at length. The chapter on closed reduction, for example, runs to 87 pages and contains 14 illustrations. There are 124 illustrations in the whole and 70-page bibliography. The author, who now practices in New York City was associated with Dr. Adolph Lorenz in Vienna for many years.

HOWORTH MARION BECKETT

A textbook of orthopedics with a section on neurology in orthopedics By M. Beckett Howorth, in association with Fritz J Cramer A. Wilbur Duryee, Donovan J. McCune, J. William Lüttler and Walter A. Thompson. Philadelphia W B Saunders Company 1952 1110 p. illus. 26 cm. \$16.00 1403

Contents (abbreviated): Section I: Introduction and basic principles of orthopedic practice. History of orthopedics. Anatomy and physiology of the musculoskeletal system. Examination and diagnosis. Treatment. Section II: Regional orthopedics. The spine. Shoulder and shoulder girdle. The elbow. The hand and wrist. The hip. The knee. Foot and ankle. Section III: Orthopedic disorders. Congenital deformities. Orthopedic infections. Orthopedic conditions due to trauma. Arthritis. Vascular diseases. Metabolic and endocrine diseases. Tumors of the spine and extremities. Orthopedic diseases of unknown etiology. Section IV: Neurology in relation to orthopedic practice. History. Physical examination and diagnosis. Clinical syndromes of neuromuscular and neural disorders. Lesions of peripheral nerves. Peripheral nerve syndromes. Congenital maldevelopment of the nervous system. Infections. Disorders due to trauma. Tumors affecting the motor and coordinative functions. Diseases of unknown etiology. Index.

Note: Although a textbook and introductory in the subject, this work contains broad coverage with wide range of information about specific disorders and treatments. The importance of understanding the basic anatomy is stressed. Most of the space has been given necessarily to the discussion of diseases. There are 443 figures, and short lists of references are attached to most of the chapters. The index is exceptionally full. The author is Professor of

Orthopedic Surgery in New York University Post-Graduate Medical School.

KENDALL, HENRY OTIS, AND FLORENCE P. KENDALL

Muscles testing and function, Baltimore The Williams & Wilkins Company 1949 278 p. illus. 29 cm. \$7.50 1404

Contents: Fundamental principles in manual muscle testing. Muscles and muscle charts for recording muscle examinations. Upper extremity and scapular muscles. Lower extremity muscles. Trunk muscles. Facial, neck, and throat muscles. Appendix—muscle weights and insertions. Index.

Note: Modern techniques for testing the response and strength of groups of muscles and single individual muscles are explicitly described in this work. The word descriptions are supplemented by 142 figures, the majority of which are reproductions of photographs. The book is based on an extensive experience in the Physical Therapy Department of the Children's Hospital School in Baltimore. It is organized so that it can be used both as a textbook in classes and as a reference manual for orthopedic surgeons, physical therapists, etc.

KLEINBERG, SAMUEL

Scoliosis pathology etiology and treatment. Baltimore The Williams & Wilkins Company 1951 286 p. illus. 24 cm. \$7.50 1405

Contents (abbreviated): Part I: Anatomy. pathology, etiology. Anatomy. embryology. physiology. Classification and pathology. Etiology. History. epidemiology. examination. record. Part II: Treatment. Preventive treatment. Treatment of (isolated and transitional) scoliosis. Treatment of structural scoliosis. (Spondylitic scoliosis. Treatment by forcible correction. Surgery in structural scoliosis. References. Index.

Note: Although considerable amount of background is included, this book is essentially practical manual of the modern treatment of scoliosis. All currently used methods of treatment from exercises to surgery are described in detail. Preventive therapy also is discussed. There are 141 figures and bibliography of 102 references. The work is of interest not only to orthopedists but also to general practitioners of medicine. It represents another work on the same subject written by the author and published under the name of country editor.

LEWIN PHILIP

The knee and related structures injuries—deformities—diseases—disabilities. Illustrated with 333 figures and 2 colored plates. Philadelphia Lea & Febiger 1952 illus. (part col'd) 914 p. 24 cm. \$16.00 1406

Contents (abbreviated): The anatomy of the knee. Physiology and biomechanics of the knee joint. Etiologic factors in knee disturbances. Physical examination of the knee. Roentgen ray diagnosis. Disorders of the knee. The diagnosis of disorders of the knee. Frequency in disorders of the knee. Meniscus in knee disorders. Nonoperative treatment of knee disturbances. Operative treatment of knee disorders. Internal derangements of the knee. Loose bodies in the knee joints—bursae. The ligaments of the knee. External derangements of the knee. The bursae surrounding the knee and its disorders. Deformities of the knee. Industrial knee injuries. Fractures of and around the knee joint. Dislocations of the knee joint. Knee disorders in the military service. Tuberculosis of the knee. Syphilis of the knee. Osteomyelitis involving the knee region. The antibiotics in infections of the knee. Arthritis of the knee. Operations for the removal of effects of anterior poliomyelitis. Spastic paralysis involving the knee. Circulatory and vascular disturbances of the knee. Metabolic and endocrine disorders that affect the knee. Metabolic tumors of the knee. Examination of length of lower extremities. Appendix. Bibliography. Index.

Note: A comprehensive treatise in which the author has endeavored to incorporate all of the currently valid knowledge pertinent to disorders of the knee and to medical and surgical methods of treating them. Although there are 44 chapters and long appendix. The latter includes discussions of such aspects of the subject as the embryology of the knee and of lower extremities such as leg pain in children. The work is based both on the author's thirty-five years of editing abstracts of the world's literature on orthopedic surgery

and his long experience as teacher and orthopedic surgeon. The bibliography is international in scope.

LUCK JAMES VERNON

Bone and joint diseases pathology correlated with roentgenological and clinical features Springfield, Illinois Charles C Thomas 1950 614 p illus. 26 cm. \$18.50 1407

Contents (abridged) The normal skeletal system. Acute infectious diseases of bones and joints. Chronic osteomyelitis. Aseptic osseous necrosis. Fractures. Chronic arthritis. Nerve entrapment. Skeletal manifestations of metabolic disorders. Osteitis fibrosa. Paget's disease. Metastatic disease. Hypertrophic osteodystrophy. Skeletal manifestations of endocrine disorders. Congenital defective skeletal ossification. Extraskeletal calcification and ossification. Osseous lesions in the reticulo-endothelium. Bone changes produced by lead, bluntness, phosphorus, radium, and barium. Benign tumors of bones. Malignant primary tumors of bones. Secondary involvement of the bones by malignant diseases. Tumors of joints. Index.

Note. Correlation of pathology with clinical manifestations and with the interpretation of roentgenograms is the main theme of this comprehensive work. The subheadings in typical chapters—such as Paget's disease—will serve to illustrate the approach. Historical, clinical, laboratory findings, etiology, osteogenesis, roentgenologic correlations, clinical correlations, references. Although organized as textbook the book is also well adapted because of its full coverage and detailed indexes to reference use in personal and institutional libraries. There are more than 450 figures, including several in color and extensive lists of references to the literature.

ORE, HIRAM WINNETT

On the contributions of Hugh Owen Thomas of Liverpool, Sir Robert Jones of Liverpool and London John Ridlon M.D. of New York and Chicago, to modern orthopedic surgery Springfield Illinois Charles C Thomas 1949 253 p illus. 22 cm. \$4.50 1408

Contents (abridged) Hugh Owen Thomas. Sir Robert Jones. John Ridlon. A review of past and present methods in surgical practice. Rest as the fundamental factor in the relief of pain and the arrest and cure of inflammation. Methods of securing rest in fractures and in articular disease. Diagnosis and treatment of hip disease. Diseases of the knee joint, foot, and ankle. The prevention and cure of disability and deformity in fractures. Comments upon methods still in use in orthopedic practice, from the writings of H. O. Thomas, Sir Robert Jones, and Dr John Ridlon. Supplement. Ridlon and his share in making orthopedic surgery by Arthur Rees-Sher. Associated bibliography.

Note. The scope of this contribution to the history of orthopedic surgery is indicated by the title and table of contents. The biographical sketches at the beginning of the book are short, but in the chapters which follow (and in which additional information on the influence of these men and many correlations from their writings. There are twenty plates, most of which show early orthopedic operations.

SHANDS ALFRED RIVES JR.

Handbook of orthopaedic surgery In collaboration with Richard Beverly Raney II Illustrated by Jack Bonacker Wilson and others. Fourth edition. St. Louis The C V Mosby Company 1952 644 p illus. 23 cm. \$8.00 1409

Contents (abridged) Congenital Deformities. Affectations of growing bones. Affectations of adult bones. Infections of bone (exclusive of tuberculosis). Infections of joints (exclusive of tuberculosis). Fractures of bones and joints. The spine and pelvis—the extremities. Chronic arthritis. Neurovascular disturbances—osteitis paralytica. Neurovascular disturbances (exclusive of neuritis paralytica). Development of the brain and spinal cord—development of peripheral nerves and of muscles. Tumors. Fracture deformities. Bony malformations and physical therapy. Affectations of the spine and thorax. Affectations of the low back. Affectations of the hip. Affectations of the knee. Affectations of the ankle and foot. Affectations of the neck and shoulders. Affectations of the elbow, wrist, hand, and foot. Bibliography. Index.

Note. (11177) A standard work used both as text in medical colleges and as reference book in the office libraries of general practitioners. It is not an abstractive treatise but all of the con-

mon conditions are covered. The third edition was published in 1948. The fourth edition was prepared after consultation with the heads of departments of orthopedics in the medical schools of the United States of America. Although no major change was made in the text, numerous small revisions were made and the sections were added to topics not included in the third edition. More extensive changes were made in the third edition. More extensive changes were made in the illustrative matter. These are described by the author that "There are one hundred six new illustrations as follows: twenty new roentgenograms, twenty new drawings, two retouched drawings, two replacements of drawings from the first edition, and three copies of drawings from other publications; forty of the illustrations of the third edition have been deleted, most of which were drawings from roentgenograms.

STEINDLER ARTHUR

Post-graduate lectures on orthopedic diagnosis and indications. Springfield Ill. Charles C Thomas 1950-52 4 v 27 cm. Vol. I \$7.50 Vol. II, \$6.00 Vol. III, \$8.75 Vol. IV \$9.75. 1410

Contents (abridged) Volume 1. Section A. Popliteal cyst. Orthopedic diagnosis. Symmetry and asymmetry of the body. On contractures. On the interpretation of pain in orthopedic surgery. On the pathology of the joint. Section B. Congenital deformities and disabilities. General observations and remarks on congenital deformities of the locomotor system. On congenital deformities due to disturbance of bone growth—the chondroepithelioma. On congenital deformities of the spine and thorax. On congenital talipes. On congenital defects and malformations of the long bones of the lower extremities. On congenital dislocations of the hip. On congenital deformities of the upper extremity. Index. Volume 2. Section A. Paralytic disturbances. On poliomyelitis (polioencephalitis and polio). On anterior poliomyelitis—the clinical pathology of anterior poliomyelitis—conservative treatment. On anterior poliomyelitis—operative treatment. On the paralytic syndrome. On spinal paralysis. Section B. Static disabilities. On locomotor ataxia or its basis. On idiopathic scoliosis. On the locomotor ataxia of the knee. On static deformities of the foot and ankle. Index. Volume 3. Section A. Tuberculosis of the skeletal system. On tuberculosis of the spine. On tuberculosis of the hip joint. On tuberculosis of the knee. On tuberculosis of the foot and ankle. On tuberculosis of the upper extremity. Section B. Osteomyelitis. On the pathological pathology of osteomyelitis. On the clinical pathology of osteomyelitis. On the treatment of osteomyelitis. On osteomyelitis of the spine. On osteomyelitis of the pelvis. On the more unusual types of osteomyelitis. Subject Index. Author Index. Volume 4. Section A. Arthritis and diseases of muscles, bones, tendons and ligaments. Chronic nonspecific arthritis. On the general treatment of acute arthritis. On the orthopedic treatment of chronic arthritis. On hyperostotic arthritis. On spondylitis. On gout. On pyogenic arthritis. On synovitis of bone and joint. On the inflammatory diseases of the muscles. On Drosophila contractures. On diseases of the muscles and bones. On primary interosseous disease—muscular dystrophies and atrophies. Section B. Deformities and degenerative diseases of the locomotor system. On vitellodystrophy. On acute deformities of the foot. On degenerative bone disease. An overview of the osteoarthritis. On osteoarthritis. On osteoarthritis. Subject Index. Author Index.

Note. A collection of lectures by one of the most eminent authorities on orthopedic surgery in the United States of America. All orthopedic conditions are covered including rare conditions. A wide range of material from case histories is included. Much attention is given to pathogenesis, pathology and differential diagnosis. Therapy is covered also, but more briefly. Literature references at the end of each of the lectures.

YEAR BOOK OF ORTHOPEDICS AND TRAUMATIC SURGERY

The 1951 year book of orthopedics and traumatic surgery (November 1950-November 1951) Edited by Edward L. Compere. Chicago The Year Book Publishers, Inc. 1952 380 p. illus. 20 cm. \$5.50 1411

Contents (abridged) Introduction. Pathology. Congenital deformities. Anatomic embryology pathology and physiology of the skeletal system. The epiphyses. Osteomyelitis and other infections. Fractures. The cysts and fibrosarcoma. Arthritis and rheumatism. Fractures. The spine and pelvis. The neck, shoulder and arm. The hand. The leg, knee and foot. The foot and ankle. Surgical technique. Appendices.

and prostheses, instruments, appliances and bone banks. Miscellaneous. Index. Index to authors.

Notes (1130*) This annual volume is revised and organized similarly to the other books in this useful series. Selections from the world's medical literature published during the period noted in the title are abstracted at some length, some abstracts reaching to 500 words or more. Footnote references are given in all cases for the original publication. The abstract is somewhat supplemented by notes in which the editor himself evaluates the findings reported in the article or relates them to other work. There are 320 figures in the book at hand.

PLASTIC SURGERY

BROWN, JAMES BARRETT, AND FRANK Mc DOWELL.

Plastic surgery of the nose including reconstruction of war injuries and of deformities from neoplastic, traumatic, radiation, congenital, and other causes. With 379 illustrations including 48 in color. St. Louis: The C. V. Mosby Company 1951 427 p. illus. (part col'd) 26 cm. \$15.00 1412

Contents: Section 1 General considerations: Introduction and historical notes. Preoperative examination and evaluation of patients for plastic surgery of the nose. Preoperative preparation, anesthesia, and postoperative care. Section 2 Surgical techniques in the nose of the nose. Flap transfer and use of dorsal flap. Myringotomy of the nose. Shortening the nose. Reconstruction of the lower lateral cartilage by can become exposure. Reconstruction of the lower lateral cartilage by the overture technique without the nose. Miscellaneous deformities: Deformed, postoperative splitting and nose. Section 3, Rebuilding up and shortening the nose. Rebuilding up the nose by various plastic procedures. Cartilage and bone transplants for dorsal nose reconstruction and tip support. Straightening the crooked or twisted nose. Early treatment of fractures and other acute injuries. Section 4 Correction of chief 10 nasal deformities. Secondary repairs of nose associated with cleft lip. Section 5 Repair of nose which include the grafting of skin. Skin grafts to the nose. Treatment of radiation lesions of the nose. Composite free grafts of skin and cartilage from the ear to the nose. Reconstruction of whole nose and of partial nose with flap. Cerebral repair. Section 6 Various other nasal repair. Secondary nasal operations. The nose in relation to the upper lip and chin. Etiology of the nose. Cancer of the nose. Repair of cleft, bone, cartilage, rhinoplasty, alar, hypertelorism, and rare congenital anomalies. Problems: War injuries of the nose—methods of reconstruction. Rhinoplasty. Notes.

Notes: A book of operative procedures which the authors—who are now members of the faculty of Washington University School of Medicine—have used "and found most practical." No attempt is made to describe all operative techniques, and there is no bibliography except for an occasional footnote. However, the techniques included are described fully and the various steps are illustrated in photographs and drawings representing in large scale.

BROWN, JAMES BARRETT AND FRANK Mc DOWELL.

Skin grafting. Second edition. 239 illustrations, including two plates in color. Philadelphia: J. B. Lippincott Company 1949 339 p. illus. (part col'd) 26 cm. \$7.50. 1413

Contents (abridged): Early general care of burns. Early local care of burns. Spontaneous healing of burns and other open wounds. Preparation of wounds for skin grafting. Application of skin grafts. Application of free full-thickness grafts. Flap grafts. Repair of hand, arm and ankle. Repair of body and lower extremities. Repair of face, neck and mouth. Repair of nose and ears. Rhinoplasty. Restoration of defects from mechanical injury. Repair of chemical and electrical burns. Surgical repair of radiation injuries. Skin grafting in military plastic surgery. Results of skin grafts. Bibliography. Index.

Notes (1413*) The first edition of this book—published in 1943—was limited to skin grafting of burns. In this edition the scope has been enlarged to include skin grafting in the repair of burns from other causes as well. Though very inclusive, the book remains limited of selected techniques, based largely on the authors' own work but including also some techniques described in the literature. Approximately half of the space is devoted to the illustra-

tions. The text which accompanies the illustrations is written in direct and lucid style. The bibliography is extensive.

Fox Sidney A.

Ophthalmic plastic surgery. New York: Grune & Stratton, 1952 290 p. illus. 27 cm. \$15.00 1414

Contents: The brow and the lid—cosmetic. Fundamentals of lid surgery. Grifts. Technical details. Minor surgical procedures. The lid margins—first and lid notches and callosities. Canthal repairs. Entropion. Ectropion. Ptosis. Displacement of lid and globe. The conjunctiva. Socket reconstruction. Reconstruction of the lower lid. Upper lid reconstruction. Hair-bearing grafts. Index.

Notes: A useful, well-illustrated manual addressed to general surgeons and to ophthalmologists in ophthalmic surgery. The author states, "I have attempted to include here in systematic and progressive order all the latest clinical operations of our specialty. Except for a few final chapters on the more academic reconstructive aspects of lid surgery all the procedures found here are those commonly used in every day practice. Generally speaking, each procedure included is described in compact text and is illustrated in series of drawings. Included also are valuable comments on special points in connection with the selected procedures and on alternative procedures. The author is a member of the faculty of New York University Post-Graduate Medical School.

KAZANJIAN, VARAZTAD HOVHANNES, AND JOHN MARQUIS CONVERSE.

The surgical treatment of facial injuries. Baltimore: The Williams & Wilkins Company 1949 574 p. illus. 26 cm. \$10.00 1415

Contents: The face. Healing of wounds. General principles of operative technique. Early treatment of facial injuries. Fractures of the mandible. Fractures of the maxilla. Fractures of the nose. Fractures of the zygoma. Complex fractures of the face. Some general principles of reconstructive surgery. Flap grafts. Skin grafts. Free grafts of skin and vessels. Free grafts of dermis, fat, muscle, cartilage and bone. Deformation of the upper portion of the face. Deformation of the eyelids and orbital region. Deformation of the nose. Deformation of the soft tissues of the lower portion of the face. Deformation of the bones of the lower portion of the face. Fracture of the ear cartilage and pharynx. Temporomandibular ankylosis. Facial paralysis. Deformities of the external ear. Burns of the face. Miscellaneous problems. Anesthetic management. Index.

Notes: A comprehensive work based on the very extensive experience of the authors in private, institutional, and military practice. Anatomic, psychological and other basic aspects are not neglected but most of the space in the book is devoted to descriptions and illustrations of surgical cases and techniques. There are 748 figures and many of these contain several reproductions of drawings or photographs. A typical chapter is organized under the following subheadings: "Introduction—general considerations—the healing of burns—local treatment—late treatment of burn deformities—nose injuries. The book is of primary interest to medical students with interests in plastic surgery and to plastic surgeons and general surgeons, and of secondary interest to general practitioners of medicine, dentists, etc.

SILTZER, ALBERT PINCUS.

Plastic surgery of the nose. 221 illustrations including 7 plates in color. Philadelphia: J. B. Lippincott Company 1949 305 p. illus. (part col'd) 24 cm. \$12.00 1416

Contents (abridged): The nose in physical anthropology. Anatomy of the nose. The embryology of the nose. The physiology of the nose. Preoperative and postoperative measures. Instruments. Grafts and their preparation. A typical rhinoplasty. Subnasal incision and the spine. Basal bone and maxilla. Maxilla deformities. Restoration of the subnasal and basal bone of the maxilla. Nose. Surgery about the nose. Cleft lip. Postoperative complications. The nasomaxillary operation—its causes and prevention. Index.

Notes: By basing this book on the nose and the upper lip rather than attempting to cover the whole field of plastic surgery the author, who is a member of the faculty of the Graduate School of Medicine of the University of Pennsylvania and chief of plastic and reconstructive surgery of Commonwealth Hospital of Philadelphia, has been able not only to cover the appropriate surgical practices but also to include a fair amount of background material. The illustrations include the essential features and other features of nose and also numerous step-by-step series illustrating surgical techniques. Literature references are included.

DENTISTRY

AMERICAN DENTAL ASSOCIATION

Accepted dental remedies including a list of accepted products together with other information compiled to promote rational therapeutics in dentistry 17th edition. Chicago American Dental Association 1952 211 p illus. 20 cm. Paper \$2 00 1417

Contents. Members of the Council. Council consultants. Procedures for acceptance of products. Official agencies and official standards relating to drug products. Prescription writing. Analgesics, sedatives and hypnotics. Anesthetics. Antiseptics and germicides for topical application. Antibiotics and other anti-infectives. Agents and methods for the sterilization or disinfection of dental instruments. Antiragists, styptics, hemostatics and vasoconstrictors. Central nervous system stimulants. Dentifrices. Frictional cosmetics. Mechanical aids. Miscellaneous preparations. Mouth washes. Mouthwashes. Zinc oxide preparations. Formulas and tables. Symptoms and treatment of acute poisoning. Bibliographic index to products not included in A. D. A. Index is other current reports from the Bureau of Chemistry and the Council. Index to distributors. General index.

Note. A standard manual of information about drugs and other remedies that have been officially accepted for use in dentistry by the American Dental Association. The points covered in the descriptions of individual medicines vary somewhat but generally speaking there are statements on properties, incompatibilities, actions, and uses. A structural diagram of the molecule is often included and literature references are made to the United States Pharmacopoeia and the National Formulary for drugs included in these works.

APPLETON JOSEPH LUKE TEASDALE

Bacterial infection with special reference to dental practice. Fourth edition, thoroughly revised with 108 illustrations and 5 plates 4 in color Philadelphia Lea & Febiger 1950 644 p illus. (part col d) 24 cm. \$10 00 1418

Contents (abridged). Part I. Bacteriology: Relation of bacterial growth to oxygen supply. Pure culture study of bacteria. Filtrable viruses. Chemoprophylaxis and chemotherapy. Part II. Infection: How bacteria produce disease. The natural defenses. The humoral defenses. The cellular defenses. Remissions or immunity. Artificial active immunization. Characteristics of infection. Types of infection. The control and prevention of infectious disease. Part III. Special infections of the oral cavity: Ecology of the oral cavity. The streptococcus-pneumococcus group. The spirochetes of the mouth. Dental caries. The bacteriology of the dental pulp. Fungal diseases and infections. Focal infections. Viral diseases. Actinomycosis. Osteomyelitis. Oral manifestations of extra-oral infections, including of syphilis and tuberculosis. Infiltrations of tuberculous and oral infections. Bacteriologic aspects of oral hygiene. Index.

Note. (1949) An inclusive, well-documented textbook and treatise. It is organized so as to convey sound knowledge of the principles, routes, and causes of infection and to describe the oral and related infections which are of interest in the practice of dentistry. The text is compactly written and much ground is covered. Literature references are given in the form of footnotes and there are ten or more citations on many of the pages. Both sides of controversial matters, such as the concept of focal infection, are presented. The third edition was published in 1944. In this edition new textual material and new illustrations amounting to about 140 pages have been added and references to recent publications have been entered in the footnotes.

ARCHER, WILLIAM HARRY

A manual of dental anesthesia an illustrated guide for student and practitioner

Philadelphia W B Saunders Company 1952 192 p illus. 26 cm. \$5 50. 1419

Contents. The history of anesthesia. Part I. Local anesthesia. Local anesthetic solutions. Local anesthesia. Anesthesia for general dentistry and root canal therapy. Postoperative complications. Part II. General anesthesia: Preanesthetic examination. Preanesthetic and postoperative preparation of ambulatory patient. Postoperative recovery. General anesthesia for oral surgery in the hospital. Anesthesia in dentistry. General anesthesia for oral surgery in the hospital. Complications of general anesthesia for oral surgery—these procedures and treatment. Legal aspects of anesthesia. Index.

Note. Both anesthetic drugs and anesthetic techniques are covered in this well-written, fully illustrated work. Drugs are discussed in regard to chemical and physical properties, pharmacology and toxicity. The 144 figures are special features. They include suggestions of drawings, roentgenograms and photographs and many are arranged in series that illustrate techniques in step-by-step fashion. The preliminary chapter on history runs to 34 pages and includes long list of references.

ARCHER, WILLIAM HARRY

A manual of oral surgery a step-by-step atlas of operative technics. Philadelphia. W B Saunders Company 1952 643 p. illus. 26 cm. \$15 00. 1420

Contents. The extraction of teeth. The use of elevators in oral surgery. Impacted teeth. Appendectomy. Oral surgery for dental problems. Heat and cold indications in oral therapy. Oral infections. Cysts of the oral cavity. Surgical treatment of cysts of the oral cavity. Salivary stones (sialolithiasis). Surgical treatment of oral neoplasms (tumors). Complications associated with oral surgery. Oral malocclusions—the dentist's responsibility—management of the primary lesions and their cervical metastases. Malocclusion therapy of caries of the oral cavity. Cleft lip. Cleft palate. Oral prostheses in rehabilitation of cleft palate patients. Surgical treatment of prosthodontics of the lower jaw. Fractures of the mandible and maxilla. Roentgen anatomy of the facial bones and jaws. Oral radiographic techniques. Anatomical examination of pulp is used about the oral cavity. Treatment of pain in the oral cavity and vicinity. Oral surgery in the hospital. Sterilization and disinfection. Hospital dental care and dental education. Legal aspects of oral surgery. Index.

Note. An exceptionally inclusive and detailed textbook designed for students in dental colleges and for dental practitioners. For the latter it can serve both as a "reference" and a presentation of new techniques. The more than 1000 figures include many step-by-step sequences of drawings and photographs illustrating techniques. Textual discussions also are explicit. Descriptions and illustrations of numerous interesting cases are included. The author is Professor of Oral Surgery and Anesthesia in the School of Dentistry of the University of Pittsburgh. Ten of the chapters were written by other specialists.

BRECKER SOL CHARLES

The porcelain jacket crown a manual stressing the preparation of normal and abnormal teeth. With 290 illustrations and from tipslice in color St. Louis The C. V Mosby Company 1951 263 p illus. (part col'd) 26 cm. \$8.50 1421

Contents. Classification of preparations for the porcelain crown. The preparation. Preparation of teeth influenced by their decay. Preparation of teeth influenced by their condition. Preparation of teeth influenced by their position. Preparation after the preparation is completed. Shortcomings of the porcelain jacket crown—how to prevent or minimize them. Porcelain bridges. References. Index.

Note: The aim of this very carefully prepared volume is to provide technical guide for dental students and graduate dental practitioners. By means of numerous photographs and drawings rather than by many words the author explains the procedures and techniques involved in the construction of porcelain jacket crowns. There are selected references at the end of the volume.

BURKET, LESTER WILLIAM

Oral medicine diagnosis and treatment. With a chapter on oral cancer by S. Gordon Castiglano. 372 illustrations, including 40 subjects in color. Second edition. Philadelphia J. B. Lippincott Company 1952 575 p. illus. (part col'd) 26 cm. \$14.00 1422

Contents (abridged). Section One, General considerations: Medical-dental relations. Diagnosis in dentistry. Section Two, Gingivitis, gingival enlargement, (par)periodontal disease, dental abscesses and infections, leukoplakia. Section Three, Diseases of the tongue and dermatologic diseases of dental interest. The dermatoses. Section Four, Diseases of the oral system: The respiratory system, The cardiovascular system, The gastro-intestinal system, The urogenital system, The endocrine system. The blood and the blood-forming tissues. The bones and the joints. The nerves, the nervous system and the muscles. Section Five, Maxillofacial diseases and diseases of metabolism. Section Six, Specific infectious granulomas: Syphilis, Tuberculosis, Mucocutaneous infections granuloma. Section Seven, Focal infection, dental pathology, and granulomas. Section Eight, Occupational hazards in dentistry and in industry. Section Nine, Oral cancer. Section Ten, Laboratory aids in diagnosis. Laboratory procedures. Section Eleven, Color atlas. Section Twelve, Regional diagnosis index. Index.

Note: (1214) A treatise which is concerned not only with these diseases that originate in the oral cavity but also with the pathology, diagnosis, and treatment of various systemic diseases with oral relations. The principal theme is that the dentist often has an unusual opportunity to detect and diagnose diseases which are the direct concern of the physician, and that there should be closer liaison between dentists and medical practitioners in the care of patients. Of course many of the diseases covered are wholly within the scope of the dentist. Discussions are full rather than concise and etiology, symptoms, and treatment are usually covered. Extensive bibliography is included and the illustrations are numerous and well reproduced. The chapter on oral cancer has been added in this edition. Certain other chapters have been re-written or expanded and recent literature has been added to the bibliographies.

COOLIDGE EDGAR DAVID

Endodontia the clinical pathology and treatment of the dental pulp and pulpless teeth. 355 illustrations on 179 figures and a colored plate. Philadelphia Lea & Febiger 1950 300 p. illus. (part col'd) 24 cm. \$6.00 1423

Contents: Therapeutic principles. Dental pain, its source and characteristics. Treatment of the dentin. Treatment of the dental pulp in which vitality should be preserved. Treatment of vital pulps that should be removed. Removal of the pulp and preparation of root canals for filling. Anatomy of root canals with relation to pulp removal and root canal filling. Treatment of infected pulps and pulpless teeth. Salicilamide and antibiotic medication for infected root canals. Principles and techniques of filling root canals. Healing and repair after pulp removal and root canal filling. Treatment of teeth with inflammatory disturbances of the apical periodontal tissues. Root reactions. Facial abscesses. Pulpless teeth. Index.

Note: A text on preventive dentistry or that branch of dentistry which aims at the correction of rather than the extraction of teeth. The author considers all phases of healing and repair of pulpless teeth but places specific emphasis on root canal treatment. He considers each type of disease separately and outlines the proper treatment. He has incorporated results of recent research, such advances as the use of antibiotics in achieving sterility in infected root canals. References to the literature are included. The book is of interest to cooperative students in dental schools and to dental practitioners.

COOLIDGE EDGAR DAVID and MATYARD K. HINE

Periodontia clinical pathology and treatment of the periodontal tissues. 378 illustra-

tions on 219 figures and 2 colored plates. Philadelphia Lea & Febiger 1951 318 p. illus. (part col'd) 24 cm. \$6.00 1424

Contents: Oral and dental hygiene. Dental prophylaxis. Classification of pathological changes in the periodontal structures. Treatment of gingivitis caused by mechanical irritants. Treatment of gingivitis caused by dental calculus. Treatment of gingivitis caused by infection. Gingivitis associated with systemic disturbances. Periodontitis. Periodontectomy. Treatment of atrophy of the periodontal tissues. Focal abscesses, cysts, and abscesses and the treatment of tracheitis. Hyperplasia of the gingival tissue and hyperplastic gingivitis. The use of the toothbrush in the treatment of periodontitis. Index.

Note: (1240*) This book is essentially an advanced text for students in dental colleges, but it has some usefulness also as an office reference book for graduate dentists. The descriptions of diseases and therapeutic procedures are clear and specific. Most of the illustrations are reproductions of photographs (including some microphotographs) and they are well reproduced. There are references included. The book reproduces the author's earlier book, *Clinical pathology and treatment of the pulp and periodontal tissues*, second edition, 1944, and it contains much material matter and many illustrations which do not appear in that work.

DIAMOND MOSES

Dental anatomy including anatomy of the head and neck. Third edition. New York The Macmillan Company 1952 471 p. illus. 26 cm. \$15.00 1425

Contents: Introduction and nomenclature. Comparative dental morphology. The development of teeth. Formation and calcification of hard tissues. The tooth laminae. Eruption. Development of teeth. The secondary teeth. The mandibular teeth. Techniques for reproducing basic tooth forms. Vachans and associated. Arrangement of teeth and occlusion. The supporting tissues of the teeth. Alter the pulp chamber and the pulp canal. The structure of the head and neck. The oral cavity and its soft tissues. The vascular system. The nervous system. Temporomandibular articulation. The growth and development of the skull. Bibliography. Index.

Note: (1275) An outstanding text published in first edition in 1937 and in second edition in 1944. The present third edition contains much new material of fundamental nature derived from researches done subsequently to the writing of the second edition. The book has been recognized and its scope considerably extended. The Atlas noted in the table of contents contains 32 plates based on original drawings made from new dissections. This atlas is not included in the pages of the volume. The bibliography is an extensive one classified according to the chapter arrangement.

ELLIS ROY GILMORE

The classification and treatment of injuries to the teeth of children a reference manual for the dental student and the general practitioner. Third edition. Chicago The Year Book Publishers Inc. 1952 247 p. illus. 19 cm. \$4.25 1426

Contents (abridged): Class 1, Simple fractures of crowns, involving little or no dentin. Class 2, Extensive fractures of crowns, involving considerable dentin but not the pulp. Class 3, Extensive fractures of crowns, involving considerable dentin and exposing the pulp. Pulp exposure. Pulpotomy. Class 4, Traumatic tooth which becomes anavital, with or without loss of crown structure. Vital teeth. Maxillary teeth, with pulp chamber exposed by fracture. Maxillary teeth, with pulp chamber not exposed by fracture. Class 5, Teeth lost as result of trauma. Placement of restoration. Re-positioning to compensate for loss of teeth. Class 6, Fracture of the root, with or without loss of crown structure. Class 7, Displacement of teeth, without fracture of crown or root. Partial displacement—extrusive luxation but little displacement. Total or complete displacement. Class 8, Fracture of the crown on mesial and its replacement. Class 9, Traumatic injuries to deciduous teeth: Fracture of deciduous teeth, division 1. Displacement of deciduous teeth, division 2. Index.

Note: A compact and useful work written from the viewpoint of the graduate dental practitioner. Each of the chapters begins with "Prescription for treatment" in which all the steps are covered from the recording of the case history to step-by-step notation of the treatment. Following this, various approaches to each problem are considered and diagrams, pictures, and X-ray photographs are used where applicable. Bibliographies are included. The author is Professor of Operative Dentistry at the University of Toronto.

GROSSMAN LOUIS IRWIN

Root canal therapy Third edition thoroughly revised with 119 illustrations Philadelphia Lea & Febiger 1951 368 p. illus. 24 cm. \$6.50 1433

Contents: History of root canal therapy. Anatomy of root canals. Diseases of the dental pulp. Duration of the periradicular lesion. Examination and diagnosis. Pulp capping. Pulpectomy. Pulp extirpation. Pulpectomy. Pulp canal and local infection. Selection of cases for treatment. Principles of root canal treatment. Preparation of the root canal. Sterilization of the root canal. Bacteriological examination. Filling of the root canal. Treatment of fractured and transverse root canal. Root reaction. Bleaching of discolored pulpless teeth. Treatment of discolored teeth. By E. G. Glick. Index.

Note: (1948) A standard guide for dental practitioners. The discussion of history, anatomy, and of standard techniques are not materially changed in this edition in comparison to the second edition published in 1944. However, important revisions and additions have been made in the section on endodontics. Also there are approximately 10 new illustrations.

GROSSMAN LOUIS IRWIN editor

Lippincott's Handbook of dental practice. Second edition with 388 illustrations, 4 color plates. Philadelphia J B Lippincott Company 1952 503 p. illus. (part color) 26 cm. \$10.00 1434

Contents: Part one, Diagnosis and treatment. The prevention of dental caries, by E. G. Miller and J. F. Vetter. Control of dental caries, by E. L. Grossman. Oral cancer, by O. R. Winter and L. I. Grossman. Root canal therapy, by E. C. Miller. Orthodontics, by A. G. Brooks. Periodontics, by R. O. Green. Endodontics, by L. I. Grossman. Diseases of the mouth, by L. W. Bechtel. Prosthodontics, by E. C. Deitch. Anesthesia, by W. H. Archer. Radiology, by J. R. Cameron and J. J. Statton Jr. Part two, Restorative dentistry: Gold alloy restorations, by R. M. Cowart and H. K. McIlwain. Amalgam, plastic and direct restorative restorations, by R. K. Kalkfeld. Ceramic restorations, by C. C. Beattie. Periodontics, by C. A. Brown. Crown and bridge restorations, by A. G. Kalkfeld. Dental anatomy, by V. R. Thompson. Complete dentures, by V. R. Thompson. Index.

Note: (1948) A reference guide for practicing dentists. The style of presentation is direct and concise. Much use is made of illustrations and of tables and most tables summarize data and reference information. Bibliographies are included, but the book is not intended to be a reference work. Much use has been made to make them complete. The first edition was published in 1944. The major change in the second edition is the addition of the chapter on oral diagnosis. A section has been added on the use of the self-curing acrylic, and numerous smaller revisions and additions have been made in other chapters. About 80 illustrations have been added.

KRONFELD RUDOLF

Histopathology of the teeth and their surrounding structures. Third edition, thoroughly revised and edited by Paul E. Boyle. With 464 illustrations. Philadelphia Lea & Febiger 1952 514 p. illus. 24 cm. \$8.00 1435

Contents: Anomalies in shape and number of teeth. Physiology and pathology of tooth calcification. Enamel hypoplasia and hypocalcification. Hutchinson's teeth. Mottled enamel. Regenerative changes in dentin and pulp. Dental caries, by W. B. Williams. Pulpitis. Acute apical periodontitis. Chronic apical periodontitis. Tissue changes following root canal therapy. Carcinoma—changes with age, function and infection. Tooth resorption. Epithelial attachment and gingival crevices. Periodontal diseases (gingivitis, periodontitis, pyorrhea alveolaris). Influence of function upon teeth and surrounding structures. Tissue changes due to occlusal functional stress. Tissue changes in orthodontia. Embedded teeth—odontomas (odontoid) cysts—odontoid abscesses—odontoid cysts. Tooth fracture. Healing of extraction wounds. Histology of alveolar bone. Vincent's disease. Decalcification and stains. Common diseases of the oral tissues. Tumors of the oral cavity. Adenoma. Index.

Note: A well-written treatise on the tissue changes that "accompany to certain well-defined, clinical conditions. Both etiologic and reactive changes are included and there is also much valuable material on the question of the relationship between cause and prognosis. The book is used by advanced students

of dentistry and by graduate dental practitioners. Very extensive bibliographies are included in the chapters. The second edition was published in 1939. In preparing this edition important revisions were made in the text of many chapters. The literature of the 1930's was added to the bibliographies and the number of illustrations was increased.

LANGLEY, LEROY LESTER, AND E. CHER-ASKIN

The physiological foundation of dental practice With 149 illustrations St. Louis The C. V. Mosby Company 1951 511 p. illus. 25 cm. \$8.25 1436

Contents: (abridged) Section 1. The nervous system: Receptors. The sensory. Skeletal muscle. Sensory function. Motor system. Coordination. Cranial nerves. Reflexes and special reflexes. Vision. Audition, olfaction, gustation. Section 2. Circulation. Cardiac muscle. The cardiac cycle. Electrophysiology. Regulation of the heart's action. Cardiac output. Arterial blood pressure. The venous blood pressure. The capillaries and lymphatics. Blood. Section 3. Respiration. Oxygen and carbon dioxide transportation. Control of respiration. Integration of the respiratory system—the administration of an anesthetic. Section 4. Excretion: Acid base balance. Integration of excretion—normal constituents, drugs, diuretics. Section 5. Alimentary: The dental tissues. Salivary. Food metabolism. Energy metabolism. Nutrition. Section 6. Endocrinology. Index.

Note: This textbook was written with the aim to meet the needs of dental students for particular presentation of physiology different from that which would satisfy the medical student. About half of the volume is devoted to the physiology of the nervous system, the dental being more intimately concerned with the nervous system than with any of the other systems. All the material is presented very briefly but accurately and is supported by illustrations. The authors are members of the faculty of the School of Dentistry of the University of Alabama.

MCBRIDE, WALTER CLAR

Juvenile dentistry Fifth edition thoroughly revised, with 302 illustrations. With special chapters by James Nuckolls Dorothea Radusch, C. Taylor Hall and Harold V. Dwyer Philadelphia Lea & Febiger 1952 370 p. illus. 24 cm. \$7.00 1437

Contents: The management of the child. The management of the office. Growth and development of the teeth. Morphology of the deciduous teeth, with special reference to the pulp cavity and its relation to cavity preparation, by J. Nuckolls. Examination and diagnosis. Preventive dentistry. Operative procedures for vital deciduous teeth. Pulp management in both deciduous. Operative procedures for young permanent teeth. Root reaction, by C. T. Hall. Filling materials and their application. Extraction and orthodontia. Preventive orthodontics. Teeth and the diet, by D. F. Radusch. Physical diagnosis, by H. V. Dwyer. Index.

Note: (1948) This book is both text for use in dental colleges and manual for graduate dentists whose practice includes child patients. Most of its content pertains to disorders of children's teeth and the techniques of treating and restoring them but is concerned with the technical material is good deal of advice on the management of the child patient (and his parent) as well as on the cooperation. The fourth edition appeared in 1945. Although much of the contents of this edition is identical with the contents of that one, some revision has been made in most of the chapters, and the recent literature has been added to the reference lists.

MCCALL JOHN OPPIE, AND SAMUEL STANLEY WALD

Clinical dental roentgenology technic and interpretation, including roentgen studies of the child and the adolescent. Third edition, with 1277 illustrations on 475 figures. Philadelphia W B Saunders Company 1952 384 p. illus. 26 cm. \$8.50 1438

Contents: Introduction. Electricity and roentgenology. The dental roentgenogram and the film used in dental roentgenography. Factors in dental roentgenography. Complete intra-oral roentgenography. Sur-

ty-orientation, roentgenograms, stereoscopic roentgenography, Roentgenographic interpretation, Dental roentgenograms of the neonatal child, Differential diagnosis between anatomic landmarks and indications of pathologic conditions, Anomalies and abnormal development, Growth phenomenon, Hypoplasia, Dental caries, Periodontal lesions, Root resorption, Periodontal disease, Fractures of the teeth and jaws, and operative trauma, Osteomyelitis, Cysts, Bone dysplasia, Benign tumors of the jaws, Malignant tumors of the jaws, Injuries of the maxillary bone, The temporomandibular articulation and displaced teeth, cysts, salivary calculi and foreign bodies, Index.

Wass. (1929)¹ needed for *Aspilota* hymenialia, sternalia, and pronotum. This was the first use of X-rays in insect taxonomy. The technique is difficult to use if X-rays are given to the insect before it is desiccated. Almost as much space is given to the illustrations as is given to the text. As would be expected, a large proportion of the illustrations are reproductions of rostratograms, but some are photographs that show correct positioning of psyllids. The second edition was published in 1947. In the third edition the scope and organization are the same however significant additions and changes are made. The text is more complete. The illustrations have been enlarged by 50% and the number of illustrations has nearly 100.

McGEHEE WILLIAM HARPER OWEN AND
MELVIN W GREEN

Pharmacology and pharmacotherapeutics for dentists Fourth edition. Philadelphia The Blakiston Company 1952 550 p illus 24 cm. \$7.50 1439

Contents. Basic principles of pharmacology and prescription writing. Drugs used by the dentist chiefly for their local effects on the mouth and teeth. Local drugs affecting the laboratory process. Drugs acting locally on the gastro-intestinal tract. Drugs acting on sensory nerves. Drugs acting chiefly after internal administration. Drugs acting on the autonomic nervous system and drugs acting on muscles. The pharmacology of the metals, specific vitamins and hormones. Appendix. Therapeutic index. Subject index.

Notes (1933) A standard text for college students of dentistry and reference text for use by practicing dentists. Priority was given to drugs and methods of application as given in the images of drugs and pharmacognosy. Dental remedies whose value is still uncertain are included. Dental items were recognized but their current status is partly indicated. The appendix includes some other information. Absence of the possibility of important drugs and dental terminology and pronunciation guide. The third edition appeared in 1947. Important changes have been made in the present edition. These include discussion of new products, such as the non-sedative dentifrices, and changes in terminology necessary to make the text conform with the *United States Pharmacopoeia XIX* and the *Federal Formulary IX* and *Accepted dental remedies*, 8th edition.

MASSLER, MAURY AND ISAAC SCHOUF

Atlas of the mouth and adjacent parts in health and disease. Drawings by Carl T. Linden. 180 illustrations (19 in color). Chicago: Illinois American Dental Association, 1951. unbound, illus. (part col'd). 29 cm. \$2.50. 1440

Contents The oral cavity The permanent arch. The deciduous arch. Relationship of eruption and eruption and pulp. Occlusion of the teeth (normal abnormal) Life of the tooth. Physiology. The various species of the anterior teeth Dental caries The progress of dental caries Effects of the loss of teeth Dental erosion Dental fluorosis. Chromogenic of teeth development Growth and calcification patterns of enamel and dentin Zonae hypoplasia The teeth in congenital syphilis. Common lesions of the buccal mucosa. Common lesions of the lips. The progress of periodontal disease Diseases of the tongue. Basic conditions of the tongue The tongue in systemic disturbances. Oral diseases of occupational origin The floor of the mouth. The salivary glands. The tonsils (Waldeyer's ring) Common ailments of the throat. The paranasal sinuses. The effects of mouth breathing Frontal and horizontal sections through the face. Arteries of the hand Veins of the hand. The peripheral nerve. Diseases of the temporomandibular joint The Acute and Chronic temporomandibular joint in mouth opening Abnormal openings of the mouth Abnormal closure of the temporomandibular joint Deviations of the midline in mouth opening Facial asymmetry and occlusal deviation. The temporalis muscle The masseter muscle The lateral pterygoid muscle. The external pterygoid muscle. Muscles of the mandible. Fractures of the arch of the mandible. Fractures of the angle of the mandible. Fractures of the body of the mandible. Multiple fractures

of the mandible and fracture in the midline. Treatment of mandibular fractures.

Note: A compilation of large-scale illustrations of the teeth, the mouth, and related parts. As indicated by the plate titles given above—the work has diagnostic value as well as anatomical. The book is made up so that each right-hand page is occupied by plate while the facing left-hand page carries the verbal legend or description.

MEAD STERLING VERNON

Anesthesia in dental surgery. With 212 illustrations. Second edition. St. Louis The C. V. Mosby Company 1951 648 p. illus. 25 cm. \$12.50 1441

Contents (abridged) Part I: Selection of anesthesia. Anesthetics and analgesics for various dental operations. Part II: History of local anesthesia. Anatomy. Local anesthesia. Local anesthetic solutions. Arthroanesthesia for local anesthesia. Indications, terminal, or peripheral method of producing anesthesia. Blocking the maxillary nerve and its branches by the inferior method. Blocking the mandibular nerve and its branches by the inferior method. Blocking the second or maxillary division of the Aik cranial nerve and its branches by the external method. Blocking the third or mandibular division of the Aik cranial nerve and its branches by the external method. Complications and accidents of local anesthesia. Part on History of general anesthesia. Physiology is related to general anesthesia. Preoperative preparation and medications for general anesthesia. Intravenous anesthesia. Racial anesthesia. Inhalation anesthesia. Muscular relaxation. Unfavorable reactions and complications. Emergency measures and resuscitation. Postoperative care. Index.

Notes: This work is primarily a test for dental college students and accordingly a survey of current techniques and materials used for practicing dentists. It is decided emphasis on the practical aspects although some important but sometimes neglected topics are included. The majority of the dentist who administers anaesthetics. The author does not cover any particular drug or technique but he does advise (1) that the dentist work only with one type of anaesthetic with which he is fairly familiar and (2) that he keep up to date by taking training courses as well as theoretical and new types. Selected references are included. The first edition of the book was published in 1955. In preparing this edition most of the material test was revised and much new material was added.

SALZMANN JACOB AMOS

Principles of orthodontics. Second edition.
533 illustrations Philadelphia J B Lippincott Company 1950 887 p. illus. (part col'd)
24 cm. \$15.00 1442

Orthodontics. Orthodontics is preventive dentistry and public health. Orthodontics and prophylactic orthodontics. Growth and development. Bone growth and the dental index. Development and maturation of the head. Developmental anatomy and physiology of the teeth and jaws. Development of the dentures. Association of malocclusion with disease and eruption. Orthognathic development and the occlusion of the teeth. The maxillofacial relation to extrinsic deformities. Nutrition in relation to dental defects and diseases. Etiology factors in dental deformities. Classification and diagnosis of dental deformities. Differential diagnosis and treatment planning. Orthodontic examination. The prevention and treatment of insufficient malocclusion. Polyrat orthodontics. Orthodontics. The Tveit method. The Tveit appliance. The Mervinap system. Index of arches. Radiated index.

Note (1970). A treatise of wide scope. The primary concern is with the accuracy of understanding growth processes of other biological factors. However, the latter 1700 pages of the book are devoted to lichens. The book is well both as a text in advanced and graduate courses and as a reference source for the general literature. Very extensive bibliographies are entered in the index lists of the authors of the cited papers are entered in the index lists. The three former gains in 1943. Important additions and revisions first edition appeared in 1943. The book is over 1200 pages long, are evident in this edition. The number of illustrations has been substantially increased and the additional literature published since 1943 has been added to the bibliography.

SARNAT BERNARD G, editor
The temporomandibular joint. Springfield,
Illinois Charles C Thomas 1951 148 p. illus.

23 cm. (American lecture series. Publication no 134 A monograph in American lectures in dentistry edited by Edward J Ryan) \$4 75 1443

Contents: Functional anatomy of the temporomandibular joint, by H. Nicker. Histophysiology of the temporomandibular joint, by J. P. Wehmann and H. Nicker. Construction of the mandibular condyle in the growth of the face, by A. G. Brindley. Pathology of the temporomandibular joint, by J. P. Wehmann and H. Nicker. An evaluation of Coster's syndrome from an osteologic point of view, by A. A. Zimmerman. Diagnosis of severe structural temporomandibular joint conditions, by A. G. Brindley. Temporomandibular disorders: diagnosis and dental treatment, by J. K. Thompson. References.

Note: A collection of original papers written to clarify certain segments of the knowledge of the temporomandibular joint and to relate this knowledge to clinical problems and treatment. The level of writing is postgraduate. The editor is Head of the Department of Oral and Maxillofacial Surgery of the College of Dentistry of the University of Illinois.

STRANG, ROBERT HALLOCK WRIGHT

A text-book of orthodontia. Third edition thoroughly revised with 1050 illustrations on 583 figures and 5 plates some in color Philadelphia: Lea & Febiger 1950 825 p. illus. (part col'd) 24 cm. \$15 00. 1444

Contents (abridged): The basic principles of orthodontia. Normal occlusion of the teeth. The natural mechanics of the human denture. Malocclusion of the teeth. The etiology of malocclusion. The history of the dental sciences. The growth and development of the denture. These chapters taking place collectively to tooth movement. Orthodontic mechanics. The appliances and mechanism. The corrective treatment of malocclusion. Restorative operative technique. Appliances: Orthodontic appliances and devices. Index.

Note: A completely detailed work in which the techniques of treatment are based on the use of the appliance such mechanics developed by Edward Hartley Angle. It is used both as text in dental schools and as an office reference book by graduate practitioners. Pathology of the bands on the teeth and affording of the virus in various types of malocclusion and in specific illustrative cases are described in minute detail. The second edition was published in 1941. This edition is longer by about 100 pages.

THOMA, KURT HERMANN

Oral and dental diagnosis, with suggestions for treatment. With contributions by Henry Goldman and Fred Trevor Third edition. With 776 illustrations 60 in color Philadelphia: W B Saunders Company 1949 563 p. illus. (part col'd) 24 cm. \$10.00. 1445

Contents (abridged): Part I. Principles and methods of examination and diagnosis: Case history Physical examination. Laboratory tests. Special examinations for dental and oral diseases. Radiogram examination. Treatment planning. Part II. Diagnosis and treatment of dental and oral diseases: Diagnosis of developmental malocclusions and their relation to the face, teeth, and jaws. Diagnosis of malocclusion of the lower and upper arches. Diagnosis of malocclusion of the teeth. Diagnosis of general dental and oral conditions. Diagnosis of environmental changes in the teeth. Diagnosis of edentulous: Diagnosis of periodontal diseases. Diseases of the partially and completely edentulous mouth. Diagnosis of diseases of the oral mucosa, lips, and tongue. Diagnosis of fractures of the teeth and jaws. Diagnosis of changes of the jaws. Diagnosis of swellings of the soft tissues of the face and neck. Diagnosis of nerveless complexions. Diagnosis of oral foci, potential sources of systemic diseases. Glossary. Bibliography. Index.

Note: (3710) A standard work widely used as textbook in dental colleges and as reference book by graduate dentists. A wide range of diseases is covered in compact style. Diagnosis is emphasized but treatment also is covered. In fact, in this third edition there is more attention to treatment than in preceding editions. 110 of the illustrations are new.

the teeth, jaws, and mouth. Third edition. With 1660 illustrations, including 78 in color St. Louis: The C. V Mosby Company 1950. 1592 p. illus. (part col'd) 28 cm. \$17.50. 1446

Contents (abridged): Part I. Hereditary influences in anomalies of the teeth and jaws. Embryonic influences on the development of teeth and jaws. Nutritional influences on the development of the teeth and jaws. Part II. Anomalies and diseases of the teeth: Developmental anomalies of the dentition. Pathology of the form and structure of the teeth. Environmental pathology of the teeth. Changes in the teeth caused by general disease. Traumatic injuries of the teeth. Part III. Odontogenic Dental cysts. Pulp involvement. Dentoalveolar abscesses. Periodontal diseases, by H. M. Goldman. Complications caused by odontogenic infections. Part IV. Anomalies and diseases of the head and jaws: Congenital malformations of the head and face. Malformations of the skull and their effect on the jaws. Congenital defects of the face. Developmental anomalies of the jaws. General diseases affecting the jaws. Part V. Anomalies and diseases of the temporomandibular articulation: Developmental anomalies. Traumatic injuries of the mandibular joint. Infectious arthropathies. Tumors of the mandibular joint. Part VI. Diseases of the nerves and muscles of the face and jaws. Part VII. Mouth diseases: Congenital and acquired anomalies. Oral diseases essentially local in character. Allergic manifestations and drug intolerance. Oral diseases of metabolic scope. Oral manifestations of virus diseases. Oral lesions in blood diseases. Oral lesions in dermato-mucous diseases. Part VIII. Diseases of the salivary and mucous glands. Part IX. Tumors of the jaws: Tumors of odontogenic origin. Tumors of odontogenic origin. Tumors of the soft tissues of the oral cavity. Index.

Note: (3710a) A treatise of exceptionally comprehensive scope. It covers both the gross pathology and the microphysiology of all of the diseases and areas of the face abnormalities and diseases of the teeth, jaws, and mouth. Clinical aspects are emphasized. Extensive references to the pertinent literature are included in the individual chapters. The work is used both as text in dental colleges and as reference book by dental graduates and others engaged in research or teaching of dentistry. It is comparable to the author's *Oral surgery* described below. The second edition of *Oral pathology* was published in 1944. When it was made in both text and illustrations in preparing this edition, and the total number of illustrations was increased by 272.

THOMA, KURT HERMANN

Oral surgery Second edition. With 1789 illustrations including 121 in color St. Louis: The C. V Mosby Company 1952 2 v illus. (part col'd) 26 cm. \$30.00 1447

Contents: Volume I. The principles of surgery. The general care of the patient. Anesthesiology. Chemotherapy and antibiotics. Dentoalveolar surgery. The treatment of abnormalities of the dentition. The treatment of traumatic diseases of the jaws. The treatment of odontogenic diseases of the maxillary arch. The treatment of osteomyelitis and necrosis of the jaws. Volume II. The treatment of diseases of the mandibular joint. The treatment of infections of the face and neck. The treatment of diseases of the salivary and mucous glands. The treatment of diseases of the teeth and seventh nerves. The treatment of cysts of the jaw. The treatment of bone tumors. The treatment of cysts of the mouth and jaw. The treatment of malignant tumors. The treatment of developmental deformities of the jaw. The treatment of acquired deformities of the mandible. The treatment of oral abnormalities and defects.

Note: (1243) An outstanding work which provides comprehensive and detailed description of surgical techniques used in the correction of diseases, injuries, and abnormalities of the oral cavity teeth, jaw and adjacent structures. Although addressed primarily to graduate dentists, especially those who are taking instruction in postgraduate dental schools, the scope of the book is so wide that it is useful reference material in both dentistry and medicine. Considerable attention is given to pre- and post-operative care of patients as well as to surgical techniques. Each volume is profusely illustrated and well supplied with extensive lists of the related literature. The first edition was published in 1941. In preparing this edition extensive additions were made in both the text and illustrations. The number of illustrations and the length of the text have both been increased, and recent literature has been added to the bibliography.

WIKKELER, RUSSELL CHARLES

A textbook of dental anatomy and physiology Second edition, illustrated. Philadel-

THOMA, KURT HERMANN

Oral pathology a histological, roentgenological, and clinical study of the diseases of

phia. W B Saunders Company, 1950 422 p.
illus. 26 cm. \$7 00 1448

Contents. Nomenclature and general considerations. Development of the teeth, calcification and eruption. General considerations in the physiology of the permanent dentition. Physiologic tooth form protecting the periodontium. The deciduous teeth. The permanent teeth—the maxillary incisors. The maxillary incisors. The canines (cuspids) maxillary and mandibular. The maxillary premolars (bicuspids). The mandibular premolars (bicuspids). The maxillary molars. The mandibular molars. The pulp cavities of the permanent teeth. Dento-alveolar structures. Temporomandibular articulation—muscles of mastication—analysis of mandibular movements. The arrangement of the teeth and occlusion. Index.

Note. (1111) A textbook for use in schools of dentistry. It is introductory to dental anatomy but it is thorough enough and well-detailed to make it of interest to graduate dentists as well as to students. Terminology, embryology and physiology are considered in the first four chapters. The succeeding chapters are devoted to detailed study of general anatomy as the chapter titles indicate. The first edition was published in 1940. No major changes were made in preparing this edition, but the text has been revised and checked in numerous places. Also, changes have been made in the illustrations. These include an entirely new series of illustrations in the chapter on pulp cavities. A section of recent literature has been added to the bibliography. The author is Associate Professor of Anatomy in the School of Dentistry of Washington University.

YEAR BOOK OF DENTISTRY

The 1951 year book of dentistry (August, 1950–August, 1951) Editors Stanley D. Tytman and others. Chicago The Year Book Publishers, Inc. 1952 512 p. illus. 20 cm.
\$5 00 1449

Contents. Diagnosis. Pulpal and periodontal diseases and related pathology. Caries. Public health. Dentistry for children. Orthodontics. Surgery and related pathology. Restorative and prosthetic dentistry. Index. Index to authors.

Note. (1199*) As in other volumes of this useful series, the chapters consist of abstracts of important articles selected from the world's medical periodicals published during the period indicated in the title. The abstracts average about 1 page in length and are therefore long enough to do justice to the original article. In many instances an abstract is supplemented by an editorial note. A reference to the original article is always included. In the present issue there are 347 figures.

ZEISS, ROBERT C, AND JAMES NUCKOLLS

Dental anatomy. The form and function of the permanent teeth, by Robert C. Zeiss, and The form and function of the deciduous teeth, by James Nuckolls. With 427 illustrations. St. Louis The C. V. Mosby Company 1949 486 p. illus. 29 cm. \$10 00 1450

Contents. (abridged) Part I. Descriptive anatomy of the permanent dentition. The permanent incisors. The permanent canines. The bicuspids. The permanent molars. Occlusion of the permanent teeth. Part II. Descriptive anatomy of the deciduous dentition. The deciduous incisors. The deciduous canines. The deciduous molars. The relationship of the deciduous teeth. Measurement of the permanent teeth of man. Measurements of the deciduous teeth of man. Glossary. Index.

Note. By backing the scope of this book to the teeth the authors have been able to cover their teeth comprehensively. The drawings represent ideal teeth constructed as composites based on thousands of measurements. Each face of each tooth is illustrated. Each feature is fully described and several cross-sections are shown. The glossary is extensive and the index is full and highly specific. The authors are members of the faculty of the Dental School of the University of California.

INDUSTRIAL MEDICINE

ELKINS HERVEY BERTRAND

The chemistry of industrial toxicology
New York John Wiley & Sons Inc., 1950
406 p. illus. 23 cm. \$6.50 1451

Contents (abridged) Evaluation of hazards. The elements. Inorganic compounds. Organic compounds. Natural and industrial products. Preventive measures. Industrial operations and processes. Miscellaneous allowable concentrations. Fallacies and misused problems. Air sampling devices. Analytical methods and procedures. Bibliography. Index.

Note: A reference manual of chemical information about harmful substances encountered in industry. It describes the properties of the various elements and compounds, indicates their harmful physiological effects, states the maximum allowable concentrations, and describes tests and other methods of evaluating concentrations and concentrations. However, it does not cover pathology and other medical topics which usually constitute the main content of books on industrial toxicology. It will be useful to plant physicians, industrial health engineers, public health workers, and others concerned predominantly with industrial hygiene.

FAIRHALL, LAWRENCE TURNER

Industrial toxicology Baltimore The Williams & Wilkins Company 1949 483 p. illus.
24 cm. \$6.00. 1452

Contents (abridged) Part I, Inorganic substances. Part II, Organic substances. Index.

Note: A reference manual of information on substances harmful to industry that have some toxicological interest although they may not be poisons. Iron and tin, for instance, are discussed under inorganic substances along with arsenic, bismuth, etc. Each of the two major parts consists of series of short essays arranged alphabetically under the name of the substance. The following points are covered in the typical essay on an individual substance: chemical and physical properties, industrial uses, toxicity, analysis, and literature references. The average length of an essay is slightly over two pages.

FORBES, JOHN JOSEPH VINCENT, AND OTHERS

Review of literature on dusts by J J Forbes, Sara J Davenport, and Genevieve G Morgis. Washington, D C. Government Printing Office, 1950 333 p. 23 cm. (United States Bureau of Mines Bulletin 478) Paper \$0 65 1453

Contents: Introduction. Definition and classification of dusts. Exposure to dust. Physiological effects of breathing dust. Historical record. Incidence of dust diseases. Types of dust injurious to health. Terminology of dust diseases. Pneumoconiosis. Silicosis. Prevention of dust diseases. Principal dust factors producing pulmonary pathology. Determination of dust in air. Engineering control in prevention of dust diseases. Medical control in prevention of dust diseases. General recommendations for control of dust diseases in industry. Economic and legal aspects of dust diseases in industry. Cost of compensation for silicosis. Determination of working capacity. Bibliography. Index.

Note: This review of Bureau of Mines Bulletin 400, 1937, contains information in convenient form on various phases of the dust problem especially in the mining and allied industries. Because of the large amount of literature available on the subject the authors have not attempted to include all published material or all types of dust diseases, but have listed their knowledge of data to certain aspects of the subject, with particular reference to lung diseases.

HAMILTON ALICE AND HARRIET L. HARDY
Industrial toxicology Second edition, revised and enlarged. New York Paul H Hoe-

ber Inc. Medical Book Department of Harper & Brothers, 1949 574 p. 22 cm. \$6.50. 1454

Contents (abridged) Diagnosis of industrial poisoning. Alkaloids. Acids. Chromium. Lead. Mercury. Arsenic. Phosphorus. Cadmium. Antimony. Metal fume fever, iron, manganese. Beryllium. Silicosis. Infections, mycetozoa, ascarides, copper. Tin. Nickel and other metals. Aldehydes. Aromatic amines. The petroleum, fatty hydrocarbon series. Chlorinated hydrocarbons. Carbon disulphide. Turpentine, solvents. Synthetic rubber, plastics, welding. Oil solubilities. Occupational cancer of the skin. Occupational cancer of the lung. Occupational cancer of the bladder. Radiant energy. Rubrotoxin. Bibliography. Index.

Note: (1373) A standard work which in this edition has undergone extensive revision and enlargement. The more important additions include new material on chemical agents used in the synthetic rubber and plastics industries, and new chapters on beryllium and asbestos substances. Intended for the use of plant physicians and general practitioners, the book is a discussion of the mode of bodily entry, toxic effects, therapy and preventive measures of a wide variety of industrially arising agents and organic substances. Although enough information is given on most topics to aid the needs of most industrial physicians in their everyday work, the style is condensed. Key numbers in the text serve to guide the reader to the source publications. The bibliography has been brought up to date and lists 1300 references.

JACOBS MORRIS BORIS

The analytical chemistry of industrial poisons, hazards, and solvents. Second edition, revised and enlarged. Volume I. New York Interscience Publishers, Inc., 1949 788 p. illus. 24 cm. (Chemical analysis. A series of monographs on analytical chemistry and its applications. Editors: Beverly L. Clarke and I. M. Kolthoff) \$13 50 1455

Contents: Industrial hygiene and industrial poisons. Sampling. Measurement of gas volume and quantity. Absorbance and chemically. The chemical and microscopic estimation of dust. The chemical and microscopic estimation of silica. Lead, mercury and arsenic. Other harmful metals. Common poisonous compounds of sulfur, phosphorus, and nitrogen—arsenic and thallium. The common poisonous compounds of the halogens. Carbon monoxide, carbon dioxide, cyanides, and nitrites. General methods for the determination of combustible and solvent vapors. Paraffin and substituted aliphatic hydrocarbons. Benzene and the aromatic hydrocarbons. Halogenated hydrocarbons. Alcohols, glycols, aldehydes, and ethers. Acids, esters, aldehydes, and ketones. Phenolics, cresols, cresol-formaldehyde and other organic alcohols. Appendix. Subject index.

Note: (1317) A comprehensive technical treatment of industrial not only to toxicology, but also to specialists in industrial hygiene and safety personnel in manufacturing establishments. As the title indicates the emphasis is on the analytical chemistry. Most of the space is devoted to detailed descriptions of analytical procedures. However data are also included on physical and chemical properties, toxicity, physiological symptoms, and detection. Literature references are included in parentheses. Substantial additions representing the advances in the field in the past decade have been made in this edition, and the length of the book has been increased by more than 100 pages.

KUHN HEDWIG STIEGLITZ

Eyes and industry Formerly *Industrial ophthalmology* Second edition with 151 text illustrations including 3 color plates. St. Louis The C. V. Mosby Company 1950 378 p. illus. (part col d) 26 cm. \$9.00. 1456

Contents: Visual testing in industry. Visual aids. Visual standards. Corrective programs. Industrial eye injuries caused by acid

indies, by A. C. Seck. Radiation. Chemical eye injuries. Eye protection. Identification. The blind in industry. Miscellaneous. Appendix. References. Index.

Notes: (1779) Based on research work by the Joint Committee of Industrial Ophthalmology of the American Academy of Ophthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association, this monograph presents ophthalmology from the standpoint of the importance of vision in industry. The plan of organization is indicated by the chapter titles. Much of the material on eye injuries is industry eye protection, lighting of work, etc., is not readily available elsewhere. The first edition appeared in 1944. This edition, though similar in scope and organization, has been increased in length by more than 80 pages and contains one new chapter that on the blind in industry. New data and new explanatory material have been added in various parts, and recent publications have been added to the extensive literature field.

INDUSTRIAL HYGIENE, editor

Industrial hygiene and toxicology Volume II. New York: Interscience Publishers Inc. 1949 p 535-1138 illus. 25 cm. \$15.00 1457

Contents: The halogens, by F. F. Heyroth. Alkaline materials, by F. A. Patty. Acids, phosphates, silicates, sulfur and tellurium, by F. A. Patty. Compounds of oxygen, nitrogen, and carbon, by F. A. Patty. The cyanides and cyanogen compounds, by J. H. Starnes. Industrial lead poisoning, by R. A. Korte. The metals (except lead) by F. F. Heyroth. The aliphatic hydrocarbons, by F. A. Patty. Aromatic and cyclic hydrocarbons, by F. A. Patty. Halogenated hydrocarbons, by J. H. Starnes. The alcohols, by J. F. Truce. Organic acids, by J. H. Starnes. The ethers, by J. H. Starnes. The aldehydes, by J. H. Starnes. The ketones, by F. A. Patty. Esters, glycols, and glycol ethers, by F. A. Patty. Aliphatic nitriles, diamines, and amine compounds, by J. H. Starnes. Nitro and amine compounds of the aromatic series, by D. O. Humble. Phenol and phenolic compounds, by W. B. Deichmann. Potential exposures in industry— their recognition and control, by F. A. Patty and F. R. Riddick. Subject index, volumes I and II.

Notes: (1274) Volume of this work covers the broad aspects of the subject of industrial hygiene and volume II the properties and action of specific atmospheric contaminants, and methods for estimation on industrial exposure, analytical methods, permissible concentrations, toxicological data, and various properties of the substances. The final chapter presents information about (a) processes, occupations, or industries that are of hygienic interest, the assignments being alphabetical from "Aluminum blending" to "welding," the length of the treatment varying from single paragraphs to several pages. Bibliographical references are given throughout the volume to facilitate.

STONE, ROBERT SPENCER, editor

Industrial medicine on the plutonium project survey and collected papers. New York: McGraw Hill Book Company, Inc., 1951 511 p. illus. 24 cm. (National nuclear energy series, Manhattan Project technical section. Division IV—Plutonium project record. Vol. 20) \$7.00. 1458

Contents: Introduction. General introduction to reports on medical, health physics, and biology, by R. S. Stone. Part A. Survey of medical services of the plutonium project, by J. E. With. Biological bases for maximum permissible exposure, by E. T. Caspell. Protective measures for personnel, by J. J. Kitchin. Clinical laboratory examination of plutonium project personnel, by L. O. Jacobson and R. K. Marks. Hematological effects of ionizing radiation, by L. O. Jacobson and others. Biochemical studies relating to the effects of radiation and metals, by S. Schwartz. Urinary excretion studies, by R. J. Fawcett and others. Distribution and excretion of plutonium, by R. E. Russell and J. J. Kitchin. Management and treatment of exposed personnel, by J. E. With. Requirements of an atomic health service in relation to atomic research and industrial development, by E. T. Caspell and others. Part B. Collected papers in chemical medical progress—Standard English Words, by E. T. Caspell. Blood changes in human beings following total-body irradiation, by J. J. Kitchin. Hematological studies on patients treated by total-body exposure to X-rays, by E. V. A. Lowther and R. S. Stone. Changes in acute blood levels of radiochemical laboratory exposure during the first year of employment as related to working conditions, by N. Penhale and G. A. Secher. Hematologic investigations of blood constituents and characteristics in population of project workers, by G. A. Secher and others. Effect of exercise on hemoglobin, by G. A. Secher and others. Descriptions of statistical analysis, by E. R. Russell and G. W. Russell. Treatment of radiation in acute, by E. R. Russell and J. Schmitt. Status of health and protection at the Hanford Engineer Works, by E. T. Caspell and E. M. Parker. Telecine in whole body irradiation of patients with advanced cancer, by L. F. Craver. Index.

Notes: A collection of summarized reports and papers based on original research (and to a lesser extent on experience) carried out in connection with the production of the atomic bomb. The style of presentation is technical. The book is useful to such readers as graduate scientists who are concerned with progress of research into the effects of ionizing substances upon living tissue and physicians whose duties include the protection of industrial and laboratory personnel from exposure to ionizing radiation.

AVIATION, MILITARY AND NAVAL MEDICINE

ADAMS GEORGE WORTHINGTON

Doctors in blue the medical history of the
Union Army in the Civil War New York
Henry Schuman, 1952 253 p. illus. 22 cm.
1459

Contents: The medical confusion of 1861. References on surgery. The Federal rules and the army surgeons. Evolution of the ambulance system. Improvement in field tactics. Warfare surgery. Operations and infections. The general hospital. Nurses, staffs, and communications. Army medicine and hygiene. Diseases and treatments. A note on the armor. Appendix. Index.

Notes: A detailed and graphic picture of military medicine as practiced during the Civil War period in the United States of America. Despite the advances that had been made in medicine up to that time, the descriptions of camp conditions, facilities for hospitalization, care of the wounded on the battlefield, surgical methods and general medical care, indicate rather appalling conditions. Although based on one place of medical practice, the book provides general pictures of the state of medical knowledge in the United States in the 1860's. A long list of sources available is included; however, statements and data in the text are not directly related to the sources.

ARMSTRONG HARRY GEORGE

Principles & practice of aviation medicine.
Third edition Baltimore The Williams &
Wilkins Company 1952 476 p. illus. (part
col'd) 24 cm. \$7.50 1460

Contents: Historical (to 1900). Historical (twentieth century). Principles and practice. Introduction to pilot selection. Examination of the eye. Cardiovascular examination. Ear nose and throat examination. General physical examination. Neuropsychiatric examination. Objective aptitude tests for flying training. Nervous system examination in aviation. The atmosphere. Altitude sickness. Oxygen in aviation. Aerobic studies and aerobics. Effects of alcohol poison. Aerial equilibrium. Altimeters. Decompression sickness. Pressure cabin aircraft. Speed and acceleration. Accidents in aviation. Emotional reactions in flight. Air nerves and air evictions. Aerial hygiene and sanitation. Pre-flight equipment. Index.

Notes: (1) (16) A standard textbook which provides general survey of the scope and contents of aviation medicine and is addressed to both advanced students in medical colleges and graduate practitioners of medicine. It serves partly the terminology as only semi-technical, hence the book has some utility as a source of information for technically trained persons in fields other than medicine. Four new chapters have been added in the present edition and there has been considerable revision and rearrangement of the material carried over from preceding editions. The author is the Surgeon-General of the United States Air Force.

BEHRE GILBERT WHEELER, AND MICHAEL E. DEBAKEY

Battle casualties incidence mortality and
logistic considerations. Springfield, Illinois
Charles C Thomas, 1952 277 p. illus. 24 cm.
\$10.50. 1461

Contents: Introduction. Incidence of hits and wounds. Death from wounding. Effectiveness of weapons. Location of hits and wounds. Logistic problems of personnel, hospitalization, and evacuation in forward areas. Appendix. Glossary. Index.

Notes: A work based on data compiled in official records of the Army Medical Service, United States Army. It contains analyses of United States experience in World War II. The experience is analyzed in discussions and also in about 100 tables. The work is of interest to military purposes, especially those who are in charge of planning for the surgical care of men wounded in battle.

BEECHER, HENRY KNOWLES

Early care of the seriously wounded man.
Springfield, Illinois Charles C Thomas 1952
52 p. 22 cm. (American lecture series. Publication no. 138. A monograph in American lectures in surgery edited by Michael E. DeBakey and R. Glen Spurling) \$0.75 1462

Contents: Introduction. General considerations. Field care prior to hospital admission. Specific resuscitative procedures. Care of men with specific wounds. Morphine and other narcotics. Anesthesia for wounded men. Summary.

Notes: This monograph is based on actual experience with men wounded in battle. The emphasis is on treatment of the patient in the interval between the actual wounding and the final report. The author weighs the various levels of consciousness in their application in different cases and under many conditions. He discusses anesthesia and its use in a variety of wounded conditions with emphasis not on general conditions but study on specific procedures. In each instance the effects of specific reactions are described. Where certain anesthetics should not be used, that indication is also presented.

COBURN ALVIN FREDERICK, AND DONALD C YOUNG

The epidemiology of hemolytic streptococcus during World War II in the United States
Navy Baltimore The Williams & Wilkins
Company 1949 229 p. illus. 24 cm. \$4.00.
1463

Contents: (Abstracts). Magnitude of the streptococcal problem in the U. S. Navy during World War II. The mechanism of spread of streptococcus hemolyticus within naval training center. The development of local pockets of streptococcal infections early in World War II.

The introduction of new chemoprophylaxis—its relation to the epidemiology of streptococcus hemolyticus. The spread of autoinoculable variant strains of streptococcus hemolyticus. A comparison of conditions and occurrence of six naval activities where self-inoculable variant strains of streptococcus hemolyticus spread rapidly in the winter months of 1943. Observations on the infecting agents in relation to the initiation of streptococcal outbreaks during the last year of World War II. Observations on the relation of geographical environment to the stability of streptococcus hemolyticus in sputa. Observations on the association between immuno- and antibiotic resistances of streptococcus hemolyticus in naval training activities. Observations on the relation of chemosensitization to the epidemiology of streptococcus hemolyticus. Observations on the stability of testing streptococcus hemolyticus for serologic type and self-inoculable resistance. Potential factors in the spread of streptococcus hemolyticus on which information was lacking prior to World War II. Conclusions. Glossary. Bibliography. Index.

Notes: Essentially this work is devoted field report on the appearance of hemolytic streptococcus in the United States Navy during World War II. The data on which the book was based were uniformly comprehensive. The authors have not only summarized these but have also pointed out interrelationships and drawn certain conclusions. There are numerous tables and bibliography of 73 references.

bedes, by A. C. Seell. Radiation. Chemical eye injuries. Eye protection. Illumination. The blind in industry. Miscellaneous. Appendix. References. Index.

Note. (1778) Based on research work by the Joint Committee of Industrial Ophthalmology of the American Academy of Ophthalmology and Otolaryngology and the Section of Ophthalmology of the American Medical Association, this monograph presents ophthalmology from the standpoint of the importance of vision in industry. The plan of organization is indicated by the chapter titles. Much of the material on eye injuries in industry, eye protection, lighting of work, etc. is not readily available elsewhere. The first edition appeared in 1944. This edition, though smaller in scope and composition, has been increased in length by more than 80 pages and contains one new chapter that on the blind in industry. New data and new expository material have been added in various parts, and recent publications have been added to the extensive literature list.

PATTY FRANK ARTHUR, editor

Industrial hygiene and toxicology Volume II. New York Interscience Publishers Inc., 1949 p. 535-1138 Illus. 25 cm. \$15.00 1457

Contents. The halogens, by F. F. Herresh. Alkaline materials, by F. A. Patty. Aromatic, phosphorus, selenium, sulfur and tellurium, by F. A. Patty. The cyanides and cyanogen compounds, by J. H. Starnes. Industrial lead poisoning, by R. A. Kehoe. The metals (except lead) by F. F. Herresh. The aliphatic hydrocarbons, by F. A. Patty. Aromatic and cyclic hydrocarbons, by F. A. Patty. Halogenated hydrocarbons, by J. H. Starnes. The alcohols, by J. F. Trice, Jr. Organic acids, by J. H. Starnes. The amines, by J. H. Starnes. The aldehydes, by J. H. Starnes. The ketones, by F. A. Patty. Esters, glycols, and glycol ethers, by F. A. Patty. Aliphatic amine bases, and amine compounds, by J. H. Starnes. Nitro and amine compounds of the aromatic series, by D. O. Hamblett. Phenol and phenolic compounds, by W. R. DeChateau. Potential exposures in industry: their recognition and control, by F. A. Patty and F. R. Halden. Subject index, volumes I and II.

Note. (1377) Volumes of this work covers the broad aspects of the subject of industrial hygiene and volume II the properties and action of specific toxicologic contaminants, and furnishes information on industrial exposures, analytical methods, permissible concentrations, flammability codes, and various properties of the substances. The final chapter presents information about 89 poisons, scrap poisons, or industries that are of hygienic interest, the arrangement being alphabetical from "active blasting" to "welding," the length of the comment varies from single paragraph to several pages. Bibliographical references are given throughout the volume in footnotes.

STONE ROBERT SPENCER, editor

Industrial medicine on the plutonium project survey and collected papers. New York. McGraw Hill Book Company Inc., 1951 311 p. Illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division IV—Plutonium project record. Vol. 20) \$7.00 1458

Contents. Introduction. General introduction to reports on medicine, health physics, and biology by R. S. Stone. Part A, Survey. Medical services of the plutonium project, by J. E. Wirth. Medical bases for maximum permissible exposures, by R. T. Castelli. Positive measures for personnel, by J. I. Nickless. Chemical laboratory surveillance of plutonium project personnel, by L. O. Jackson and R. E. Marks. Hematological effects of ionizing radiation, by L. O. Jackson and others. Biochemical studies relating to the effects of radiation and metals, by R. Schwartz. Tissue reaction studies, by R. J. Ferretti and others. Distribution and excretion of plutonium, by R. E. Russell and J. I. Nickless. Management and treatment of exposed personnel, by J. E. Wirth. Requirements of an adequate health service in relation to atomic research and industrial development, by R. T. Castelli and others. Part B, Collected papers: Industrial medical progress—Hanford Engineer Works, by R. T. Castelli. Blood changes in human beings following total-body irradiation, by J. I. Nickless. Hematological studies on patients treated by total-body exposure to X-rays, by R. V. A. Lee-Saw and R. S. Stone. Changes in serum blood levels of metalurgical laboratory employees during the first year of employment as related to working conditions, by N. Pearlman and G. A. Becker. Microscopic investigations of blood constituents and characteristics in population of product workers, by G. A. Becker and others. Effect of surgery on leucocytes, statistical analysis, by R. E. Marks and others. Determination of radium in excreta, by R. E. Russell and G. W. Reed, Jr. Treatment of plutonium poisoning by metal displacement, by J. Schwartz. State of health and protection at the Hanford Engineer Works, by R. T. Castelli and H. M. Farber. Tolerance to whole body irradiation of patients with advanced cancer, by L. F. Corver. Index.

Note. A collection of summarized reports and papers based on original research (and in some extent on experience) carried out in connection with the production of the atomic bomb. The style of presentation is technical. The book is useful to such readers as graduate scientists who are concerned with progress of research into the effects of radioactive substances upon living tissue and organisms whose duties include the protection of industrial and laboratory personnel from exposure to ionizing radiation.

PUBLIC HEALTH

**CHENOWETH LAURENCE BENJAMIN, AND
WHITELEW REID MORRISON**
*Community health. Third edition. New
York Appleton-Century-Crofts, Inc. 1949*
314 p. illus. 22 cm. \$3.00. 1466

Contents: Hygiene and health education. Health conditions in the United States. Types and causes of diseases. Immunology. Control of infection. Diseases spread by the human carrier. Diseases usually contracted from the soil. The relation of air to health. Water and water-borne diseases. Diseases spread by animals. Diseases usually transmitted by food. Diseases spread by insects. Quarantine, isolation, and disinfection. Waste disposal. The accident problem. Public health administration. Vital statistics. Different health problems. Glossary. Index.

Note: (117R) A survey of typical community health problems and of methods of handling them, written for use in introductory college courses. Emphasis is placed on prevention, however, with some attention given to the historical background of the subject. Previous editions were entitled "Community hygiene." For this edition the work was not only re-titled but there has been considerable new treatment and revision.

**COHN ALFRED EINSTEIN, AND CLARE
LINGO**

*The burden of diseases in the United States.
New York Oxford University Press, 1950*
129 p. illus. (part col'd) 31 cm. \$10.00 1467

Contents: The international list of causes of death—changes in nomenclature. On the value of statistical statements. Population and the death rate. Leading causes of death. Race. Sex. The causes of events in specified diseases. Shape of curves by disease. Numerical changes in selected causes of death. Mortality. Summary. Additions. Notes. References.

Note: A valuable interpretive study of statistical data available in the publications of the United States Bureau of the Census and the World Health Organization. The statistical data have been used as basis for a series of graphs and charts and these are supplemented by commentary written by the authors. In the chapter on leading causes of death the data and commentary are organized by age groups, and in that on the causes of events and specified diseases the arrangement is by specific diseases and groups of related diseases. Five charts reproduced in color, suitable for wall mounting and on a large scale, are supplied in separate slips. This book is basic reference tool in public health work, life and life insurance, and in other fields where data on diseases, causes of death, and life expectancy are useful.

HANLON, JOEN JOSEPH
*Principles of public health administration.
With 48 illustrations. St. Louis The C. V
Mosby Company 1950 506 p. 25 cm. \$6.50*
1468

Contents: Part I, Introduction. The philosophy of public health. The background and development of public health in the United States. The socioeconomic foundations of public health activities. Part II, Administrative considerations in public health. Organizational considerations in public health. Personnel factors in public health. Fiscal management in relation to public health. Legal considerations in public health. Governmental aspects of public health. Public relations in the public health program. Part III, Pattern of public health activities in the United States. Present organization of official public health programs. Vital statistics. The control of communicable diseases. Maternal and child health activities. Chronic diseases and adult health. Environmental health. Laboratory services. Health education. Public health nursing. The voluntary health agencies. Public health, the private physician, and medical care. Public health and private enterprise. Authors' index. Subject index.

Note: An introductory work for students and graduates who are

preparing for careers in administrative positions in the public health field. The subject is covered both broadly and specifically and against the background of the current public health situation in America. The author is a member of the faculty of the School of Public Health of the University of Michigan.

HISCOCK IRA VAUGHAN
*Community health organization. Fourth
edition. New York The Commonwealth
Fund, 1950 278 p. illus. 24 cm. \$2.75 1469*

Contents: The government and public health. The planning of community health work. Organization and administration. Public health education. Statistics and records. Preventable disease control; epidemiology. Venereal disease control. Tuberculosis control. The maternal and child health program. The school health program. Public health nursing. Environmental sanitation. Laboratory services. Hospital and health center facilities. Minor health problems. Medical care administration in relation to public health. Voluntary health service. The health survey. Financial aspects of community health work. Index.

Note: (3144) A new and revised edition of a standard work on community health services and organization. In comparison to the edition of 1939 many of the chapters have been rewritten and new material has been added in order to furnish health officers, nurses, and teachers of public health with up-to-date practices for the protection and promotion of public health. The work is practical rather than theoretical, being based upon surveys of health administration in cities of varying sizes. The work may be used as a handbook by the health administrator and his staff, as an instruction manual for the training of health personnel, and also as a source of information for the layman interested in the health work of official and voluntary agencies.

**HOPKINS EDWARD SCOTT AND FRANCIS B
ELDER**

*The practice of sanitation. Baltimore The
Williams & Wilkins Company 1951 423 p.
illus. 24 cm. \$7.50. 1470*

Contents: Fundamental concepts. Principles of disinfection. The sanitary survey. Food sanitation and the public health. Milk and milk products. Water supply. Disposal of sewage. The control of gross pollution. Disposal of refuse and solid wastes. Ventilation, freshening pools. Environmental sanitation and the public health. Insect and rodent control. Administrative procedures. Index.

Note: A manual of fundamental practices according to the best public health standards in the United States of America. Such particulars as food handling in restaurants and such devices as bactericides for the disposal of garbage and other communicable refuse are described. The descriptions are cast in a simple, readable style and are very practical. However, the chapters are all supplemented with well-selected references to the technical literature. The book is suited to use as an elementary text in courses offered to medical, nursing, and public health students and as a reference book to public health and general interests.

MATHERSON ROBERT
*Medical entomology. Second edition. Ithaca, New York Comstock Publishing Com-
pany Inc., 1950 612 p. illus. 24 cm. \$7.50*
1471

Contents: (abridged) Arthropods and human disease. The order Acarina. The Hemiptera. The order Orthoptera and Hemiptera. The order Anophelina—the biting and sucking flies. The Diptera—flies. Mosquitoes. The problem of mosquito control. Other bloodsucking mosquitoes. The bloodsucking arachnids. Fleas. The housefly and its allies. Myiasis of man and allied conditions. The Siphonaptera—fleas. Pediculus and its relatives. Lice. The Phlebotominae—sandflies and biting midges. Collecting, preserving, and mounting insects. Index.

Note: A survey which serves both as an introductory text for col-

ology and nutrition, by C. M. McCoy. Orientation in serology, by E. J. Rieffert. The growth and aging process, by C. A. Schellberg. Epidemiology, by A. D. Leape. Strategic concepts in epidemiology, by H. A. Schneider. An epidemiological approach to disease control through family studies, by A. Conner. The social epidemiology of health, by E. L. Birt.

Index: A collection of original papers written around the central theme of bringing epidemiological data to the attention of persons concerned with health education. There are few statistical references in related literature but an formal bibliography and no index.

NEW YORK ACADEMY OF MEDICINE. INSTITUTE ON PUBLIC HEALTH 1947

Ecology of health. Edited by E. H. L. Corwin. New York: The Commonwealth Fund, 1949. 196 p. 21 cm. \$2.50. 1477

Contents: Genetics and the public health. Maternal health and nutrition—problems in prevention, medicine, maternal and child health. Diseases, climate, geography and disease. Rasthism in preventive psychiatry. Trends in state and local health service. The hospital survey and construction act and nation-wide health programs, by H. Kaminer. The preparation of professional workers in the field of public health, by C. S. A. Whaley. Education of the layman in health responsibilities, by F. Rebeck, London.

Note: Except for the three chapters for which particular studies are indicated in the above table of contents, the chapters of this book consist of facts and ideas gathered from various papers and discussions that occurred at the Institute. These contents chapters are described in the book's forward as "distillations of the discussion." The book as a whole presents a synthesis of current thought in the United States of America on the aspects of public health as indicated in the chapter table. The presentation is largely untechnical, hence the book may be read by persons with interest in the field. The chapters are supplemented by selected lists of references.

PUFFER, RUTH RICE

Practical statistics in health and medical work. Foreword by Hugo Muench. New York: McGraw-Hill Book Company Inc., 1950. 238 p. illus. 21 cm. (McGraw-Hill series in health science, Amos Christie, consulting editor) \$4.50. 1478

Contents: Value and use of statistical data. Planning of program, study or experiment. Methods of handling statistical data. Presentation of data. Elementary statistical method. Study and utilization of prevalence data. Method of study of development of disease in limited period of time. Method of study of development of disease in observed population over period of time. Method of study of its occurrence in specific group. Method of study of cases over period of time. Random of disease in the population. Development and utilization of industrial statistical data. Statistical plans of control programs. Index.

Review: As the title indicates, this is a book on practical applications of statistical methods and data in medicine and public health work. It is introductory to the subject in the sense that no previous acquaintance with statistical methods on the part of the reader is assumed. The treatment is broad enough to give the reader a view of the scope of applied biostatistics in these fields and to enable him to set up practical statistical projects. Literature references are included in the chapters. The author is Director of the Statistical Service of the Department of Health of the state of Tennessee.

SCHRENK, HEINRICH HERMAN AND OTHERS

Air pollution in Donora, Pa. Epidemiology of the unusual smog episode of October 1943. Preliminary report, by H. H. Schrenk, Harry Holmann, George D. Clayton, W. M. Gafafer and Harry Wexler. Federal Security Agency Public Health Service, Bureau of State Services, Division of Industrial Hygiene. Washington, D. C. Government Printing Office, 1949. 173 p. illus. 30 cm. (United States. Pub-

lic Health Service. Public health bulletin no. 306) Paper \$1.25. 1479

Contents: Origin of study. Introduction: The Donora area. Plan of investigation. Biological studies: Acute episode. Collection of data. The acute illness. Related studies. References. Long term effects. Oral structures. Mortality and morbidity. References. Atmospheric studies: Investigation of atmospheric contaminants: Collection and determination. Evaluation of plant effluents. Atmospheric pollution from domestic sources, steamboats, trucks and automobiles. General studies: Meteorology. Meteorological investigation. Meteorology of the Monongahela River Valley vicinity of Donora. The Donora smog episode of late October 1943. References. Meteorological conditions and atmospheric contaminants. Discussion of cause of episode. Substances studied. Single substances. Combination of substances. Summary and recommendations. Appendix.

Note: This bulletin presents a report of the results of five months of intensive field work by a team of 37 investigators from the Division of Industrial Hygiene of the U. S. Public Health Service and the U. S. Weather Bureau following the lethal smog which settled down over the area surrounding the industrial town of Donora, Pa., October 27-31, 1943, and led to the death of 20 persons and the illness of several thousand more. The investigation is said to have been the most extensive ever made on pollution of air pollution, every facet of the problem was examined, including effects upon health as well as the cause of the fatalities. The objectives of the study were (1) to ascertain the cause of the episode, and (2) to obtain information applicable to preventing future occurrences of similar nature. Consideration was also given to obtaining data of fundamental nature relating to the general problem of atmospheric pollution. The work is potentially of interest to public health officials, engineers, and others who are professionally concerned with atmospheric pollution.

SHEPARD WILLIAM PEACEY, AND OTHERS

Essentials of public health. By William P. Shepard. With the collaboration of Charles Edward Smith, Rodney Rau Beard and Leon Benedict Reynolds. With a foreword by Ray Lyman Wilbur. Second edition. Philadelphia: J. B. Lippincott Company 1952. 581 p. illus. 20 cm. \$6.50. 1480

Contents: Public health and the practicing physician. Environmental sanitation. Communicable diseases—general, by C. E. Smith. Special communicable diseases control. Other public health problems. The school health service. Health education. Occupational health—industrial hygiene. Occupational health—light, heat, ventilation, by R. E. Beard. Indexes, by R. E. Beard. The physician and the public health team. Index.

Note: (1977) Although intended as a condensed handbook of the scope of public health and its chief methods, a wide range of information both general and specific has been packed into this work. The chapter on environmental sanitation contains sections on water supply, sewerage disposal, refuse disposal, food hygiene, and insect control. All of these topics are treated from the public health standpoint but enough technical information is included to give the reader the necessary background information about how such processes as sewage treatment operate. Much reference data on such topics as infant mortality rates are included. The relations between official agencies and voluntary agencies in the various fields of public health in the United States of America are described. The book is addressed to medical practitioners and medical students and its purpose is to inform such readers about public health and to assist them in the use and support of public health work. The first edition was published in 1944. In preparing the second edition the field chapter on the physician and the public health team was added, statistical data were revised, and recent literature was added to the bibliographies.

SMILEY DEAN FRANKLIN, AND ADRIAN GORDON GOULD

Your community's health. A revision of *Community hygiene*. New York: The Macmillan Company 1952. 454 p. illus. 22 cm. \$5.50. 1481

Contents: (revised) Section I. A record of progress. Section II. Controlling health hazards in our environment: Controlling infection from person to person. Controlling sources of infection in animals. The fight against insect-borne diseases. Making indoor and outdoor air safer. The health significance of soil. A sanitary water supply. The community's interest in housing. Food and restaurant

sanitation. Section III, The community attack on specific diseases and disorders. Community problems in mental hygiene. Community problems in sex hygiene. The care of the chronically ill. Section IV, Meeting the needs of specific population groups: Health protection in infancy, childhood, and maturity. Better medical facilities for rural dwellers. Protecting the health of our urban dwellers. Making old age happier. Section V, Agencies for improving health and welfare: Your doctors, dentists, nurses, and hospitals. Your public health agencies. The drug industry. Your social and welfare agencies. Your community recreational agencies. A look ahead. Suggested list of sources of action pictures on selected health subjects. Index.

Note: (1924) A textbook written at the college level, but so general as that it is useful also as an elementary reference book in public libraries, etc. The viewpoint is that of the educated citizen interested in public health rather than of students who are preparing to make their careers in this field. Contemporary problems in the United States of America and techniques useful in solving them are covered in a fresh style. Selected references to professional literature are provided in the form of footnotes, and lists of suggested reading useful to the non-specialist are given at the ends of chapters. The preceding edition was published in 1941. Extensive revisions were made throughout the text in preparing this edition.

SMILLIE, WILSON GEORGE

Preventive medicine and public health. Second edition. New York: The Macmillan Company 1952 603 p. illus. 24 cm. \$7.50 1482

Contents (abridged): Section I, Introduction. Population trends and the public health. Vital statistics. Section II, Environmental sanitation. Water supplies and water-supply sanitation. Wastes disposal, sewers and their control. Food inspection. Diseases transmitted through food other than milk and milk products (food poisoning). Housing and its relation to health. Section III, Communicable diseases control. Epidemiology. Control of the communicable diseases of childhood. Control of acute respiratory infections. Control of enteric infections. Control of tuberculosis and leprosy. Venereal diseases. Section IV, Child hygiene. Section V, Adult health protection and promotion. Mental hygiene. Malnutrition and its prevention. Industrial hygiene. Genetics. Section VI, Public health administration. Administration of local health services. Rural health administration. National health service. Voluntary health activities. The public health work. Medical social work. A nation-wide medical care program. Index.

Note: (1947) An outstanding text for use in schools of medicine. The author has stressed the fact that it is not designed for public health personnel. The major theme is that the main obligation of the physician is to keep all people well not only by means of his contacts with patients but also by promotion of family and community health. Much attention is given to the social and economic factors involved in the maintenance of health. However, there is also considerable information on specific clinical techniques. The present edition represents a very substantial revision with added material on preventive babies, child health in general, accident prevention, health protection of the young adults and many other topics. The references to literature have been revised.

SYMPOSIUM ON NUTRITION FRONTS IN PUBLIC HEALTH

Nutrition fronts in public health proceedings of the Nutrition Symposium held at Yale University, November 10 1950 New York: The National Vitamin Foundation Incorporated 1951 168 p. illus. 23 cm. \$1.50 paper 1483

Contents (abridged): Nutrition and maternal health, by I. G. Macy. Factors conditioning the development of malnutrition, by E. H. Kitchell. Nutrition as factor in aging, by C. M. McCay. Influence of nutrition on work performance, by E. S. Hinesman. Nutritional and resistance—susceptibility to infection, by H. A. Schenck. Nutrition factors and hormones in stress reactions, by E. T. Jones. Summary.

Note: This volume contains the original papers which were presented at the symposium attended by professional workers in the field of nutrition.

Editors: Maryland, L. **Note:** Is it need for research health programs especially the chronic Research methods as

fields of nutrition research and public health. The public health aspect is stressed in all of them. Bibliographies and transcripts of discussions are included.

WENSLEY, EDITH

The community and public health nursing a handbook for and about boards and citizens committees For the National Organization for Public Health Nursing. New York: The Macmillan Company 1950 250 p. illus. 21 cm. \$3.50. 1484

Contents (abridged): Part I, Public health nursing—look back: A bit of history. Public health nursing today. Trends. Part II, Boards and citizens committees—their responsibilities and organization: A citizens committee for the public health nursing service of health department or other governmental agency. Responsibilities of board of directors in voluntary agency. School boards and school nursing. Officers and committees of board of directors. Who shall be members? And how long? Part III, Boards and citizens committees—their responsibilities are carried out: Meetings—how to make them interesting and productive. Board-activity-and relationship. Relations. Public relations. Emergency relationships. Appendixes. Index.

Note: Information about public health activities and about the functions and responsibilities of citizens serving on boards and committees of public health agencies is contained in this work. According to the (1901) National Organization for Public Health Nursing's *Board members' manual*, second edition, 1937. The purpose of the book is to inform members of voluntary committees of official agencies and of boards of voluntary agencies, but it would also be public health personnel who work with members of such committees and boards. This book depicts public health practice and organization in the United States of America.

WILLIAMS RALPH CRESTER

The United States Public Health Service, 1798-1950 Washington D. C. Commissioned Officers Association of the United States Public Health Service, 1951 890 p. illus. 26 cm. \$10.00. 1485

Contents: Origin and background; hospital. On guard against disease from without. The evolution of public health. Public health laboratory research. Field studies and demonstration in public health. Intra-governmental relationships. International health relations. Leadership and leaders. Those who carry on. The war years. World War II. Public health in the mid-twentieth century. Sources of material. Index.

Note: A factual history of the origin, evolution, organization, and activities of the U. S. Public Health Service and of its predecessor the U. S. Marine Hospital Service, written by the Assistant Surgeon General. It is based both upon manuscript and printed records and upon abstracts, statements, sketches, and other material submitted by a large number of active and retired officers and employees. The 108 illustrations include numerous portraits.

WINSLOW CHARLES-EDWARD AMORY

Man and epidemics. Princeton New Jersey: Princeton University Press, 1952 246 p. illus. 22 cm. \$4.00. 1486

Contents: The evolution of the public health program. Objectives and approaches. The problem of pure water. Disposal of human wastes. Milk supply. Secondary problems of food supply insects and the transmission of disease. Sources of the past. Challenge of the future. References. Index.

Note: A narrative account of the public health movement, in lucid and vigorous and more of its achievements. The style is lucid and unobtrusively technical. The book is suitable for reading and discussion. The references by teachers, journalists, and the general public. The author is Professor Emeritus of Public Health in Yale University.

PHARMACY

AMERICAN COUNCIL ON EDUCATION

Pharmaceutical survey The general report of the pharmaceutical survey, 1946-49 Ed ward C. Elliott, director Washington, D. C. American Council on Education 1950 240 p. Illus. 27 cm. \$6.00 1487

Contents (abbreviated) Part I, The pharmaceutical survey. Part II, American pharmacy Part III, The educational system. Part IV, The student quality Part V, The pharmaceutical curriculum. Part VI, The prescription study Part VII, Professional knowledge. Part VIII, Allied data and reaction. Part IX, Pharmacy in action. Part X, Retail pharmacy projects. Part XI, The findings and recommendations. Preface. Index.

Note. The final publication of a study of the American Council on Education that was set up in 1944 to study pharmaceutical education and the implementation of the practice of pharmacy particularly in the United States of America. The chief viewpoint is that pharmacy has become a profession that plays a significant part in the maintenance of health and that the educational preparation and requirements for entering the profession need adjusting accordingly. A wide range of data and opinions was collected in the course of the survey and is summarized in this work. The assembled information bears not only on educational aspects but also on such matters as the history of pharmacy, new practices, the probable effects of the current tendency of retail drugstore in the U. S. A. to become department stores in substance, the effects of chain store trading of drugs, etc.

BURLAGE, HENRY MATTHEW AND OTHERS

Fundamental principles and processes of pharmacy by Henry M. Burlage, Joseph B. Burt, Charles O. Lee and L. Walt Rising Second edition. New York McGraw Hill Book Company Inc. 1949 651 p. Illus. 21 cm. \$7.50 1488

Contents (abbreviated) Historical development of the profession of pharmacy by C. O. Lee. Ethical principles for the practice of the profession of pharmacy by H. M. Burlage. The pharmaceutical curriculum, by H. M. Burlage. The branches of and opportunities in pharmacy by H. M. Burlage. The council pharmaceutical literature, by C. O. Lee. Metabolism by J. B. Burt. The physical properties of matter, by J. B. Burt. Theory, practice, and control of heat, by J. B. Burt. Applications of, and processes involving heat, by J. B. Burt. Solutions, by L. W. Rising. The colloidal state, by L. W. Rising. Emulsification and emulsions, by C. O. Lee. Extraction, by C. O. Lee. Precipitation, crystallization, and granulation, by L. W. Rising. Mechanical subdivision of drugs, by L. W. Rising. The separation of substances by mechanical means, by H. M. Burlage. The storage and preservation of drugs, by L. W. Rising. The natural products used in pharmacy by C. O. Lee. Appendix A suggested list of books for the pharmacist's library. Maximum standard equipment for pharmacy. Preparing and subject index.

Note. (1118) A successful introductory textbook planned so as to give the beginning pharmacy student broad outline of the professional subjects he will study in his academic program. As the title indicates, the book deals with principles and processes rather than drugs, although the final chapter does provide an introductory survey of classes of drugs. There is considerable emphasis on the pharmaceutical literature. The first edition was published in 1944. Chapter titles and considerable content in this second edition are identical with those in the first edition. However, changes have been made in the text of several chapters and in the bibliographical matter. The length of the book has been increased by 33 pages.

COOK ERNEST FULLERTON AND ERIC W. MARTIN

Remington's Practice of pharmacy a treatise on the preparing, standardizing, and

dispensing of official, unofficial, and extemporaneous pharmaceutical products, with descriptions of medicinal substances, their properties uses and doses. Also a guide to other professional services rendered by the pharmacist in connection with community health. Intended for the use of pharmacists and physicians and as a textbook for students. Over eight hundred illustrations. Tenth edition. With the collaboration of more than ninety associates. Easton, Pa. The Mack Publishing Company 1951 1616 p. Illus. 29 cm. \$16.00. 1489

Contents (abbreviated) Pharmaceutical background. Technical operations in pharmacy. Chemicals and other pharmaceutical preparations. Organic chemicals. Organic chemicals. Testing and analysis. Laws governing pharmacy. Professional pharmacy. The pharmacist in public health service. Business methods of pharmacy. Hospital pharmacy. Manufacturing pharmacy. Biological products. Pharmacy and cosmetics. Appendix: United formulas. Poisons and antidotes. Glossary of medical terms. Pharmaceutical nomenclature. Index.

Note. The first edition of this comprehensive and widely-used text and reference manual was published in 1815. As with each succeeding edition, this volume has been revised to conform to the latest United States Pharmacopoeia and the National Formulary in addition. Abstracted research and chemical processes have been abstracted, and much new material added on research in pharmacy, pediatric, collective, hygiene, and antibiotics. Extensive revisions have been accomplished in the chapters on sterilization, epinephrine, nose, labeling, prescriptions, vascular disease control, and business methods. As important features of this edition is the inclusion of information on therapeutic action and changes. A very full index is again provided.

THE DISPENSATORY OF THE UNITED STATES OF AMERICA

The Dispensatory of the United States of America, 1950 edition. By Arthur Osol and George E. Farrar Jr. with E. Emerson Lennell, Willard F. Verwey, Heber W. Youngken and David K. Detweiler. Advisory editor: Horatio C. Wood, Jr. Complete in two volumes. Volume one. Based on the thirteenth revision of The United States Pharmacopoeia, The National Formulary eighth edition, and The British Pharmacopoeia, 1932 and its addenda. Volume two. Being a commentary on the new drugs introduced in the fourteenth revision of The United States Pharmacopoeia, The National Formulary ninth edition, The British Pharmacopoeia, 1948 as well as the new drugs not officially recognized. Philadelphia J. B. Lippincott Company 1950 2057 p. 27 cm. \$25.00. 1490

Contents (abbreviated) Volume one. Part one: Drugs recognized by The United States Pharmacopoeia—The Pharmacopoeia of Great Britain or The National Formulary Part two: Drugs not official in The United States Pharmacopoeia—The Pharmacopoeia of Great Britain, or The National Formulary Part three: General texts, pre-

Contents: Dispensing through the ages, by G. Dörner. The prescriptions, by E. M. Pfele. Accuracy in dispensing, by L. M. Charnet. Doseage forms, by L. M. Charnet. Dermatologic pharmacology, by L. C. Zepf. Solutions, by J. B. Sperry, Jr. Solubility, by T. Higuchi. Incompatibility and the incompatibilities of inorganic compounds, by L. W. Jones. Incompatibilities of organic compounds, by D. E. Warriner. Prescription packages and labels, by J. W. Bawden. Prescription pricing, by W. P. Erling. Later professional relations, by F. A. Foster, Index.

Note. Although good deal of specific information on the incompatibilities of standard prescriptions, substitution of various compounds, and incompatibilities is presented, this work is essentially presentation of basic scientific principles and techniques. Its main purpose is the development of general understanding of pharmaceutical dispensing. The authors include prominent teachers in colleges of pharmacy and an eminent authority on pharmacy packaging. Each chapter includes short list of literature references. There are 56 tables of reference data.

Note: A textbook expressly written for use in courses given in colleges of pharmacy. The authors' state "It presupposes knowledge of general chemistry and qualitative analysis, and may be described loosely as a review of certain principles of inorganic chemistry with special reference to the preparation, properties, and use of inorganic chemicals applied in pharmacy and medicine. Most of the chapters are directly related to various sections of the *National Formulary* and the *United States Pharmacopoeia*. There are 60 tables of reference data.

THE PHARMACOPOEIA OF THE UNITED STATES OF AMERICA

The pharmacopoeia of the United States of America (The United States pharmacopoeia) Fourteenth revision (U.S.P. xiv) and the first U.S.P. xiv supplement. By authority of the United States Pharmacopoeial Convention, Inc., meeting at Washington, D. C. May 14 and 15 1940. Prepared by the Committee of Revision and published by the Board of Trustees. Official from November 1, 1950. Easton, Pa. Mack Publishing Company 1950 1071 p. illus. 23 cm. \$9 00 1498

Contents (abridged). The history of the United States Pharmacopoeia. General principles for revision. Articles added to the U.S.P. xv. Articles official in the U.S.P. xiv but not admitted to the U.S.P. xv. Articles official in official English tables. U. S. pharmacopoeial text in English and Spanish. Monographs on vegetable and animal drugs, chemicals and preparations. General tests, processes, and operations. Reagents, test solutions, colorimetric solutions, indicators, volumetric apparatus, volumetric solutions, and pH measurements. Tables. Index.

Note. (2227) The official description of medicinal drugs for the pharmacy profession of the United States of America. In this revision the format and scope of the previous editions have been retained, with the monographs on drugs, chemicals, and preparations accounting for most of the work's length. Two hundred and two new monographs have been added, and one hundred and thirteen items which appeared in U.S.P. xiv have been deleted. Supplementary sheets are issued from time to time.

MERCK & COMPANY, INC.

The Merck index of chemicals and drugs an encyclopedia for the chemist, pharmacist, physician, and allied professions. Sixth edition. Rahway N. J. Merck & Co., Inc., 1952 1167 p. illus. 24 cm. \$8 00 thumb index edition \$7.50 plain edition. 1496

Contents (abridged). Abbreviations. Chemicals and drugs. Organic "name" reactions. Radioactive isotopes used in medical therapy and diagnosis. Color (dyes) for acids, drugs, and cosmetics. Indicators for volumetric work and pH determinations. Mixed indicators. Universal indicators. Absorption indicators. Oxidation-reduction indicators. Standard buffers for calibration of pH meters. pH values of standard solutions. Equivalents of the metric and U. S. systems of measures and weights. Compounds of United States. Medical hospital, and metric systems of liquid measures. Concentration of acids and bases. Thermometric equivalents. Specific gravity compounds. Acid-base mixtures. Cooling mixtures. Constant boiling mixtures. Boiling temperature of liquids. Melting points of solids. Organic liquids. Relative gravity (sp. gr.) of liquids. Specific gravity of liquids. Specific gravity of solids. Weight of liquids per gallon. Volumetric dilutions. Percentage solutions. Tables. Alchemical symbols used in biology and botany. Weights and logs of elements and groups and their multiples.

Note: (7113) A widely-used encyclopedic reference book of chemicals and drugs presently of interest to medical practitioners and pharmacists. Most of the space (1021 pages in this edition) is occupied by dictionary of names. Here are entered in one alphabetical short statements of information about specific chemicals and drugs together with cross references from synonyms. Data given in typical listing include the chemical formula, synonym, molecular weight, color, odor, specific gravity, boiling point, solubility, medical uses, dosage, and industrial uses. If chemical is commercially available there is statement to this effect. The remaining pages are devoted to metal tables, formulas and other data frequently used in working with and dispensing drugs. The 5th edition appeared in 1940. The present edition is an extensive revision in which material omitted from the previous edition has been thoroughly revised and 2700 new entries have been added. Among the material added to the supplementary lists and tabulations is metal compounds of standard specific reactions known by name such as Alkaloid reagents.

PARKS LLOYD M. AND OTHERS

Inorganic chemistry in pharmacy by Lloyd M. Parks, Paul J. Janke, and Lloyd E. Harris. With a chapter on isotopes by John E. Christian. Philadelphia J. B. Lippincott Company 1949 298 p. illus. 26 cm. \$6.00 1497

Contents: Introduction. The periodic table. Elements of Group vii. Metallic halides. Hydrides (acrydes) of Group vii. and their salts of pharmaceutical importance. Elements of Group vi. Metallic oxides. Metallic sulfides. Hydrides (acrydes) of Group vi. and their salts of pharmaceutical importance. Elements of Group v. Hydrides (acrydes) of Group v. and their salts of pharmaceutical importance. Elements of Group iv. Elements of Group iii. Elements of Group ii. Elements of Group i. The isotopes of the elements and their uses in pharmacy. Pharmaceutical research and medicine. Index.

PRATT, ROBERTSON, AND HEBER W. YOUNG-KORN JR.

Pharmacognosy the study of natural drug substances and certain allied products. 67 illustrations, including 4 plates in full color Philadelphia J. B. Lippincott Company 1951 644 p. illus. (part col'd) 24 cm. \$8.50 1499

Contents: Part I. General aspects of pharmacognosy definitions and sources of drug materials. Part 2. An introduction to cellular chemistry. Organic products of cellular synthesis. Part 3. Distribution and classification of drugs. Part 4. Biogenetic products and origin of their derivatives—physiology and pharmacological applications. Drug substances derived from plants and animals. Plant and animal products that directly affect the gastro-intestinal tract. Plant and animal products that promote systemic effects on the muscles, the nervous and the circulatory systems. Natural products used chemotherapeutically for the treatment of infectious diseases. Natural products used for diagnosis, prophylaxis and therapy in specific somatic diseases. Part 5. Processes and procedures: Production of crude drug materials. Fractionation and purification of crude drugs. Evaluation of crude drugs. Part 6. Past and present control—problems in public health. General statement of the problem and public health aspects of applied measures for pest control. The control of insects. The control of rodents. The control of fungi, weeds and other plants. Appendix. Index.

Note: An introductory textbook for undergraduate students of pharmacy. It is concerned with drug materials which are biologic in origin and are dealt with their chemical, physical, and physiological properties and with their production and application in medicine and public health. Most of the space is given to descriptions of drugs and of specific drugs. However, the introduction is always presented against background of basic chemistry and is related to applications. The illustrations are of good quality and extensive references lists are included with most of the chapters.

ROGERS, CHARLES HERBERT, AND OTHERS

A text-book of inorganic pharmaceutical chemistry By Charles H. Rogers, Talto O Soine and Charles O Wilson. Fifth edition, thoroughly revised, with 22 illustrations Philadelphia Lea & Febiger, 1952 850 p. illus. 24 cm. \$10 00 1500

Contents: (abridged) Oxygen and ozone. Hydrogen. Water and hydrogen peroxide. Nitrogen, nitrous acids and ammonia. The halogens family. The alkali metals. The coinage metals, copper, silver and gold. Beryllium and magnesium and their compounds. The alkaline earth metals. Boron, aluminum and metals of group III. The elements of group IV. The phosphorus family Group VI. Iodine, cobalt and nickel. Platinum metals and their compounds. The inert gases. Radioactivity and radioactive elements. Appendix. Index.

Note: (261) A comprehensive textbook for pharmaceutical students and reference book for pharmacists and physicians. The elements and their inorganic compounds are presented in short descriptions covering history, occurrence, physical and chemical properties, tests for identity, methods of preparation, and medical uses. However, the background information is given equal emphasis with that which bears directly on pharmacology. In its fifth edition the length of the book has been increased approximately 150 pages. Concise descriptions of procedures for quantitative determinations included in the fourth edition have been reintroduced and there are numerous other changes. The bibliography references presented in footnotes are brought up to date.

STOCKING CHARLES HOWARD AND ELMON L. CATALINE

Arithmetic of pharmacy Based on the original text by Alvise B Stevens Eighth edition. New York D Van Nostrand Company Inc. 1952 148 p. illus. 24 cm. \$2 75 1501

Contents: Weights and measures. Specific gravity and specific volumes. Weight-volume. Percentage solutions. Dilution and concentration. Reducing and enlarging formulas. Additional calculations pertaining to prescriptions. Conversion of temperatures. Commercial calculations. Chemical calculations. Appendix. Index.

Note: (2167) A long-established introductory textbook for students and reference book for beginning pharmacists. It covers chiefly the arithmetical calculations that are used in connection with the compounding of medicines on prescriptions. Many worked examples are included, and there are also problems for the student to solve. The work has been considerably revised and reorganized in the present edition.

UNIVERSITY OF CALIFORNIA

Hospital formulary and compendium of useful information. Second edition completely revised. Berkeley and Los Angeles University of California Press 1952 317 p. 17 cm. Paper \$3 75 1502

Contents: Prescriptions writing and conversion tables. Lists of prescriptions and orders. Drugs subject to Federal and state regulations. Battered and isotonic solutions. Therapeutic Index. Drug list. Parenteral solutions. Biologics. Pediatric therapeutic Index and procedures. Dental formulas. Parasitologic procedures. Antiparasitic agents and their administration. Procedures for X-ray examination. Contrast media used in radiology. Laboratory and clinical procedures. Treatment of acute poisoning. Miscellaneous Index. Index.

Note: The scope of this reference handbook is indicated by the chapter titles. Although designed primarily for the personnel of the University of California Medical Center it is particularly useful to the staff of other hospitals and also to graduate physicians practicing independently. Each of the chapters is compact arrangement of useful information. The drug list contains precise descriptions of not only drugs which are listed in the United States Pharmacopoeia, the National Formulary and New and Non-Official Remedies, but also of some non-official drugs used in the medical center. The appendix includes an Index of proprietary and common drug names which are different from the official names.

WILSON, CHARLES O., AND OLE GIVOLD, editors

Organic chemistry in pharmacy Philadelphia J B Lippincott Company 1949 622 p. illus. 26 cm. \$9 00 1503

Contents: Introduction, by C. O. Wilson and O. Givold. Physical properties in relation to biological action, by T. C. Daniels and W. D. Kessler. Metabolic changes of drugs and related organic compounds in the body (detoxification) by T. C. Daniels and W. D. Kessler. Aliphatic and cyclopentadienyl hydrocarbons, by A. Tash. Aliphatic heterocyclic compounds, by C. O. Wilson. Aliphatic alcohols, by E. V. Lyons. Aliphatic and alicyclic aldehydes and ketones, by C. O. Wilson. Aliphatic carboxylic acids and their derivatives, by E. V. Lyons. Aromatic hydrocarbons, by C. O. Wilson. Aromatic heterocyclic compounds, by C. O. Wilson. Phenols and their derivatives, by O. Givold. Aromatic alcohols, aldehydes, ketones, ethers and esters, by C. O. Wilson. Aromatic aldehydes, ketones, ethers and esters, by C. O. Wilson. Aromatic hydrocarbons, by C. O. Wilson. Aromatic heterocyclic compounds, by T. C. Daniels and W. D. Kessler. Heterocyclic compounds, by E. V. Lyons. Dyes, by T. C. Daniels and W. D. Kessler. Surface-active agents, by A. Tash. Tannins and related compounds, by C. O. Wilson. Carbohydrates or saccharides, by O. Givold. Glycosides, by O. Givold. Steroids, by O. Givold. Vitamins, by T. O. Soine. Antibiotics, by E. V. Lyons. Vitamins, by O. Givold. Proteins and amino acids, by E. V. Lyons. Physiological chemistry, cofactors and hormones, by H. W. Youngman, Jr. Index.

Note: A textbook written for use in courses offered to students who have completed courses in basic organic chemistry. The authors who have completed courses in basic organic chemistry of all states that they have attempted to include descriptions of all products described in the U. S. P. XII, M. F. VII and New and Non-Official Remedies, as well as the most important pharmacologically reported in the periodical literature. In most of the chapters the class of compounds under consideration is first discussed generally, with particular reference to its chemical structure and properties, then the compounds of pharmaceutical interest are described individually. In descriptions of the individual drugs, preparation, physical properties, medical uses and average dosages are given. Literature references are given at the end of each chapter. The copy of the book that was furnished for review contained an 8 page Supplement of new compounds, copyright 1952.

NURSING

GENERAL WORKS

BARRETT, JEAN

Ward management and teaching. New York Appleton-Century-Crofts Inc., 1949
399 p. 22 cm. \$4.50 1504

Contents (abridged): Part I, The position of head nurse. Part II, The responsibility of the head nurse for the quality of patient care. The meaning of good nursing. Nursing care of the patient on admission to the hospital. Preparing the patient for discharge from the hospital. Planning a program for the improvement of ward care. Part III, The responsibility of the head nurse for good ward management. The factors involved in good ward management. The responsibility of head nurse for the physical environment. Providing supplies and equipment. Record keeping. Giving and receiving reports. Assigning duties and responsibilities. Part IV, The educational responsibilities of the head nurse: General principles of ward teaching. The conference. Bedside charts and teaching rounds. The demonstration. Evaluation of teaching and supervision. Part V, The head nurse's responsibility to herself and her profession. Index.

Note: A textbook addressed primarily to nursing school graduates who are preparing to become head nurses in hospitals. The author is Director of the Department of Nursing Education of the Syracuse University School of Nursing.

BOYD, WILLIAM

An introduction to medical science an elementary text on pathology Fourth edition thoroughly revised, with 124 illustrations and 3 colored plates. Philadelphia Lea and Febiger 1952 304 p. illus. (part col'd) 24 cm. \$7.50. 1505

Contents (abridged): Part I, Some general principles: The evolution of medical science. The nature and course of disease. Inflammation, immunity and allergy. Some bacterial infections. Tumors. Part II, The organs and their diseases. Part III, Practical applications: The principles of treatment. The collection of material for the laboratory. Index.

Note: A student introduction for student nurses. Concise descriptions of common diseases are provided, together with descriptions of signs, manifestations and symptoms, and principles of treatment. In this edition revisions have been made to show recent developments in the fields of treatment and therapy and new sections have been added dealing with such topics as congenital heart disease, anemia, shock, fluid balance, virus pneumonia, and drug diseases of the heart. The author is Professor of Pathology in the University of British Columbia.

DAKEN, FLORENCE, AND ELLA M. THOMPSON

Simplified nursing. 78 illustrations. Fifth edition. Philadelphia J B Lippincott Company 1951 730 p. illus. 21 cm. \$4.00. 1506

Contents (abridged): Part one, Getting your bearings. Part two, Health is everybody's business. Part three, The human body in action: The living body. The skeletal system. The muscular system. The circulatory system. The digestive system. The respiratory system. The urinary system. The reproductive system. The excretory system. The nervous system. The special senses. Part four, Family biology: The patient is part of the family. What shall we eat? Special diets for special conditions. The child as a nurse. After 40—what? Mother and baby care. Part five, Patient conditions: Your patients and their illnesses. Mental diseases. Part six, Nursing is an art: The patient in his surroundings. Health and comfort measures for the patient. Information for the doctor needs. Nursing treatments and medications. Care in emergencies. List of national or-

ganizations distributing health information. References for your library. Index.

Note: (1951) In this edition this useful book has been thoroughly rewritten and its scope considerably changed. The fourth edition, published in 1941, was devoted somewhat toward the instruction of women interested in the care of their own families. In the present edition the book is intended chiefly for the instruction of students who are preparing for careers of practical nursing and venues who are already engaged in such positions in hospitals and the homes of others. (In the United States of America practical nurses and professional nurses are distinguished by different educational preparation and duties, those of the practical nurses being much simpler.) Basic knowledge and technique, nurse-patient, patient-family and group relationships are discussed in simple, practical style. Aids to comprehension and use of the textual material include numerous tables of specific directions, clear explanatory diagrams, chapter summaries, and glossary of simple definitions.

EMERSON, CHARLES PHILLIPS JR., AND JANE ELIZABETH TAYLOR

Essentials of medicine the basis of nursing care. Sixteenth edition, revised and reset. 190 illustrations including 4 subjects in full color Philadelphia J B Lippincott Company 1950 815 p. illus. (part col'd) 21 cm. \$4.50. 1507

Contents (abridged): Unit one, Introduction to nursing care: Observation of the patient. Treatment of the patient. Unit two, The respiratory system. Unit three, The circulatory system: The cardiovascular and lymphatic systems and peripheral vascular disease. Heart disease. Unit four, The digestive system: The gastrointestinal tract and its disorders. The pancreas and its diseases. Unit five, The renal system. Unit six, The integumentary system. Unit seven, Allergic conditions. Unit eight, The endocrine glands and metabolism. Unit nine, The nervous system. Unit ten, The musculoskeletal system. Unit eleven, The reproductive system. Unit twelve, The communicable diseases: Infection and immunity. Bacterial infections. Virus infections. Rickettsial infections. Sporebacteria and protozoan infections. Parasitic infections. Index.

Note: A very successful text, the first edition of which was published in 1906. It provides an introductory but fairly inclusive survey of the diseases and disorders that come within the scope of clinical medicine and their nursing care. The purpose is to provide the nurse with the background and specific knowledge that will enable her to render sympathetic and effective nursing care. The fifteenth edition was published in 1945. In preparing this edition the authors wrote four new chapters on therapeutic techniques in which the practitioner was usually participating directly. In addition, revisions were made to other chapters.

FADDIS MARGENE O., AND JOSEPH M. HAYMAN, JR.

Care of the medical patient a textbook for nurses. New York McGraw-Hill Book Company Inc., 1952 654 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) \$4.50. 1508

Contents (abridged): Part one, Introduction: What is disease? What are the qualifications for good medical nursing? The importance of understanding the patient. The organization of the patient. Part two, The patient's needs are the nurse's problem. The nature and importance of special needs. The patient with severe, acute illness. The patient with long term illness. The aging patient. The patient with disturbances of consciousness and of speech movements. Part three, Special treatments and diagnostic procedures: The administration of oxygen. The application of fluids from body cavities. Part four, Nursing patients with particular diseases. Visual aids. Index.

Note. Primarily textbook for use in schools of nursing. This book is of value also as a reference book to nurses in practice. The main theme is that of viewing the patient as a person and providing for his needs as an individual. General techniques and general applications are covered in the first 150 pages. Most of the remainder of the book is devoted to descriptions of specific diseases and to their particular nursing care. Diseases are considered under such headings as "Cardiovascular diseases," "Diseases of the respiratory system," "Diseases of the urinary tract" and "Infectious diseases." Most of the chapters conclude with short "Suggestions for study" and with selected bibliography. The first-named author is Professor of Medical Nursing in the School of Nursing of Western Reserve University and the second-named author is Professor of Medicine in the School of Medicine of the same university.

FINER, HERMAN

Administration and the nursing services.
New York The Macmillan Company 1952
333 p. illus. 22 cm. \$4.00 1509

Contents (abridged). Part one, The nursing service's need for administrative skill. Part two, Contributions to effectiveness of administrative skill. The security of personnel. Size of personnel in nursing service. Diverse departmental skills and nursing service. Multiplicity of skills within the nursing service itself. Necessity for a quality of nursing care. Regional responsibilities and also of nursing units. Part three, The content of administration. The scope and principles of administration. Planning, organization, and budget. Personnel. Part four, Spirit of education for nurses. The place of administration in the nursing service community. The spirit in which to teach administration to nurses. Necessary research needs, and study advice. Appendixes. Index.

Note. This book is based largely on the findings of research project for which funds were furnished by the W. K. Kellogg Foundation. The research project had as its purpose the study of such questions as: "In the science of administration needed in the conduct of nursing services? If so, in what, how, and why is it needed? Third, what industries are to be drawn for the construction of schools of nursing and for the spread of knowledge of administration among nurses already on the job at various levels in nursing service departments?" In the course of exploring these questions, the research project and the author studied various aspects of the nursing profession and nursing service, some of which are indicated by the chapter titles listed above. The book is of primary interest to directors of nursing schools and of nursing services in hospitals. It is also of interest to those who are concerned with the social aspects of nursing.

HULL EDGAR AND CECILIA M. PERRODIN

Medical nursing. Fourth edition. With 172 illustrations 12 in color Philadelphia F. A. Davis Company 1950 826 p. illus. (part col. d) 22 cm. \$4.50 1510

Contents (abridged). Unit 1, Basic principles: Causes and classifications of diseases. The manifestations of diseases—the nature of symptoms and signs. The prevention of diseases. General principles involved in the nursing care of the medical patient. Unit 2, The respiratory system. Diseases of the upper respiratory tract. Diseases of the lungs. The nursing care of respiratory diseases. Unit 3, The cardiovascular system. Diseases of the heart. The nursing care of heart diseases. Diseases of the arteries. Abnormalities of the blood pressure. The nursing care of vascular diseases. Unit 4, The blood and blood-forming organs: Diseases of the blood. Unit 5, The digestive system. Diseases of the digestive system. The nursing care of digestive diseases. Unit 6, Urinary system. Diseases of the kidneys and urinary tract. The nursing care of urinary diseases. Unit 7, Diseases of the locomotor and cutaneous systems. Nursing care in diseases of the locomotor system. The nursing care of skin disorders. Unit 8, Diseases of the endocrine and metabolic system. The nursing care of endocrine and metabolic diseases. Unit 9, The nervous system. Diseases of the brain. Emotional disorders. Nursing care in somatogenic disorders and emotional disturbances. Unit 10, Nutrients. The nursing care of deficiency diseases. Unit 11, Allergic physical agents, chemical agents. The nursing care of diseases due to allergy. The nursing care of diseases due to chemical agents. Unit 12, Infectious diseases: Bacterial diseases. Protozoal diseases. Virus and rickettsial diseases. The nursing care of the specific infectious diseases. Index.

Note. (1951) An introductory textbook for use in schools of nursing. It covers from the viewpoint of nursing the various classes of bacterial diseases and outlines their nursing care. The text is amply supplemented with illustrations and literature references. The fourth edition represents an extensive revision and some increase in the length of the book. As might be expected, most of the

added material deals with developments in therapy but considerable number of changes have been made in the discussions of diagnosis, disease prevention, etc.

JENSEN DEBORAH MACLEOD

History and trends of professional nursing.
Second edition. St. Louis The C. V. Mosby Company 1950. 365 p. illus. 22 cm. \$3.75 1511

Contents (abridged). Part 1, Backgrounds for the development of professional nursing: Unit 1, Pre-Flora Florence Nightingale nursing as background for the development of professional nursing. Unit 2, The medical background—the evolution of medical nursing. Unit 3, The physical background—the evolution of the modern hospital. Unit 4, Social and economic backgrounds for the development of professional nursing. Part 2, Florence Nightingale Unit 5, Florence Nightingale—her life and influence in nursing. Part 3, The development of professional nursing in the United States Unit 6, Early American nursing (until about 1800) Unit 7, Expansion of professional nursing. Unit 8, American nursing during World War I. Unit 9, Further developments and trends. Unit 10, Professional nursing in United States dependencies. Part 4, The development of professional nursing in other countries and international relationships: Unit 11, British nursing since Florence Nightingale. Unit 12, Canadian nursing. Unit 13, Nursing in the British colonies and dominions. Unit 14, The development of professional nursing in European countries. Unit 15, The development of professional nursing in Central and South American countries. Unit 16, The development of professional nursing in Asiatic countries. Unit 17, International relations in nursing. Unit 18, Conclusion. Index.

Note. (1901) A standard textbook for student nurses. Although it includes biographical sketches of the persons who have made the contributions to the art of nursing, the development of nursing is pictured as an integral part of development of social structure. Many developments are necessarily only summarized, but such biographical facts are included for those students who wish to pursue their further. This second edition is some years longer than the first. Material has been added particularly in the chapters on the state of nursing in countries other than the United States of America.

MCCLAIR MARY ESTHER

Scientific principles in nursing. Illustrated.
St. Louis The C. V. Mosby Company 1950.
410 p. illus. 22 cm. \$3.00 1512

Contents: Unit 1, Orientation to hospital nursing: The meaning of nursing. Personal health. Public health. The hospital. A safe and comfortable environment for the patient. Unit 2, The patient in the hospital. Admission. Observation. Comfort. Discharge. The care of the dying and the dead. Unit 3, The patient's needs: Resting. Care of the skin. Care of nails, hair, and mouth. Food and its service. Elimination and treatment of the bladder. Elimination and treatment of the large intestine. Unit 4, Making the diagnosis: Temperature. Pulse and blood pressure. Respiration and treatment of the respiratory tract. Diagnostic tests. Unit 5, Therapeutic measures: Application of heat and cold. Treatment of the vaginal canal. Treatment of the eye. Treatment of the ear. Nose and throat measures. Treatment of the stomach. Oral injections. Muscle injections. Care of wounds and bandaging. Radiation. Plaster casting care. References. Index.

Note. An introductory textbook for students of nursing in which the author has stressed the dependence of nursing on the scientific principles. The main part of each chapter is titled "Scientific principles" and is subdivided under the following headings: Anatomy and physiology. Microbiology. Chemistry. Pharmacology. Physics. Psychology and Sociology. The description of scientific nursing procedures are concise and clearly stated. The author is an instructor on the staff of the Pennsylvania Hospital School of Nursing in Detroit.

PETRY LUCILE editor

The encyclopedia of nursing. Prepared under the editorial supervision of Lucile Petry Philadelphia W. B. Saunders Company 1952 1011 p. 21 cm. \$4.75 1513

Note. A reference work which is organized in alphabetical order. The majority of terms are followed by concise notes but additional paragraphs in which the terms are not only defined but additional information of interest to nursing students and graduate nurses is given. The reader under each main term is referred to several pages. Terms from medicine, physiology, physics,

chemistry and the social sciences are included—the criterion for inclusion having been pertinence to nursing. Also included are short biographical sketches of persons who have contributed to the advance of medicine and nursing. There are no illustrations.

WORKS ON SPECIAL TOPICS

ANTHONY CATHERINE PARKER

Textbook of anatomy and physiology
Third edition. With 208 illustrations including 16 color plates. St. Louis The C. V. Mosby Company 1950 614 p. illus. (part col'd) 22 cm. \$4.25 1514

Contents (abridged) Unit I. The body as an integrated whole. Unit II. The erect and moving body: The skeletal system. The muscular system. Unit III. Integration and control of the body Unit IV. Maintaining the metabolism of the body: The circulatory system. The respiratory system. The digestive system. The urinary system. Unit V. Reproduction of the human being. Unit VI. Chemical control of body functioning. Index.

Notes: An introductory text for students of anatomy. By the use of tables, outline statements, and a high number of illustrations the author has succeeded in presenting more information than the number of pages would indicate. However fundamental information rather than verbatim details is emphasized. The preceding edition was published in 1944. In this edition there is more emphasis on physiology. However, material has been added on anatomy also.

BIDDLE, HARRY CLARENCE

Chemistry for nurses, a combined text and laboratory manual, including essential principles from inorganic, organic, and biochemistry Fourth edition. Consultant, Vaughn W. Flouts. With 212 illustrations. Philadelphia F. A. Davis Company 1951 351 p. illus. 22 cm. \$4.00 1515

Contents (abridged) Part I. Inorganic chemistry: Structure and behavior of atoms. Oxygen—the basis of life. Water. Salts—building blocks of everyday life. Acids—basic equilibria chemical and electrochemical reactions in solution. Salts—compounds having no common ion. Metals and nonmetals—ion-forming and acid-forming elements. Part II. Organic chemistry: Compounds that make life possible. Important classes of organic compounds—carbohydrates, products of hydrocarbons. Carbohydrates—alcohols or ketone derivatives of complex alcohols. Fats—our most important body storage foods. Proteins—dense builders. Dyes—chemical changes in elementary color. Part III. Appendix: Formulas and units. Blood and urine. Poisons. Part IV. Glossary. Part V. Laboratory experiments. Index.

Notes: A long established introductory text. Although it includes material from various branches of chemistry and also considerable scope of reference data, it is not one of those texts which overburden the student with detail. The matter included has been carefully selected from the standpoint of its usefulness to nurses. Consideration is facilitated by chapter outlines, summaries, "self-testing questions," etc.

COOPER, LENNA FRANCES AND OTHERS

Nutrition in health and disease. By Lenna F. Cooper Edith M. Barber and Helen S. Mitchell. Associate author Henderika J. Ryberg. Eleventh edition revised and reset. 133 illustrations, including 4 plates in color. Philadelphia J. B. Lippincott Company 1950. 744 p. illus. (part col'd) 21 cm. \$4.00 1516

Contents (abridged) Part I. Principles of nutrition: Nutrition and cellular health. Carbohydrates. Fat and related substances. Proteins. Energy metabolism. Dietetics, absorption and cell metabolism. Nutrition during pregnancy and lactation. Nutrition during infancy. Nutrition for adults, young and old. Part II. Diet in disease: Overweight and underweight. Fever and infectious deficiency diseases. Diabetes mellitus. Gastric disorders. Peptic ulcer. Diseases of the liver and the biliary tract. Allergy—skin diseases. Cardiovascular diseases. Diseases of

the urinary tract. Diseases of the musculoskeletal and the nervous systems. Preoperative and postoperative diets. Food requirements in diseases of infancy and childhood. Reference books and scientific journals. Glossary. Index.

Notes: (1232) A long established textbook and reference manual. It is addressed primarily to student nurses. However it is so comprehensive and so explicit that it is useful also as a reference book to physicians' offices, the offices of child care agencies, etc. The tenth edition was published in 1947. Parts of this edition were revised to make them conform to the 1949 revision of the National Research Council's *Recommended dietary allowances* and other parts to bring them in line with the American Dietetic Association's *A manual for teaching dietetics to student nurses*, 1949. Other chapters and parts have been revised where necessary to bring them abreast of newly developed knowledge of nutrition and diet therapy. As in previous editions there are several reference features, including an extensive bibliography.

COURCHAINÉ, ARMAND JOSEPH

Chemistry visualized and applied. Edited by M. Cordella Cowan. Drawings by Richard Albany New York G. P. Putnam's Sons, 1950 687 p. illus. 22 cm. \$5.50. 1517

Contents (abridged) Part one, Fundamentals and applications of inorganic chemistry: Chemistry and physics. Matter. Matter: Elements and metals. Gases—compounds of oxygen. Solutions. Acids. Bases. Salts. Lactation and its applications. Part two, Fundamentals and applications of organic chemistry: Hydrocarbons. Alcohols and ethers. Aldehydes and ketones. Organic acids, salts, esters, and amides. Nitrogen derivatives—urea and ureides. Alkaloids and chemotherapeutic drugs. Part three, Introduction to biological chemistry: Carbohydrates. Fats and related compounds. Amino acids and peptides. Sugars and vitamins. The chemistry of hormones. Enzymes. Digestion. Metabolism. The chemistry of blood and milk. Urine. Appendixes. Index.

Notes: An inclusive survey designed primarily for student nurses but useful also to students in other fields where knowledge of chemistry and biochemistry is important but is secondary to other sciences. The avoidance of not only general chemistry but also of biochemistry are covered descriptively. Comprehensive in the part of the reader is facilitated by the liberal use of structural diagrams, graphs, illustrations, and references to applications of the chemical knowledge in the understanding of life processes. The author is a member of the faculty of Hahnemann Medical College and Hahnemann Hospital School of Nursing, Philadelphia.

CULBERTSON, JAMES T. AND M. CORDELLA COWAN

Living agents of disease. New York G. P. Putnam's Sons 1952 624 p. illus. 22 cm. \$5.50. 1518

Contents (abridged) Unit one, Introduction: Ways by which organisms produce disease. Social significance of living agents of disease. Unit two, The nature of living agents of disease: Bacteria. Spirochetes. Fungi and molds. Rickettsias and chlamydiae. Viruses. Protozoa. Arthropods. Organisms participating in the study of organisms. Unit three, Methods in the study of living agents of disease: The laboratory. Definition and standards. The study of bacteria. The study of spirochetes and fungi and molds. The study of rickettsias and viruses. The study of protozoa, helminths, and arthropods. Collection of specimens and use of experimental animals. Unit four, The human body in relation to other organisms: Natural bacterial flora of the body. Infections of the human body. Resistance to organisms and factors which determine infectivity of organisms. Response of the body to infection of other human beings. Unit five, The control and eradication of living agents of disease: Prevention of spread of disease. Treatment of resistance of potential hosts. Organizations for the control and eradication of infectious diseases. Some of the laws concerned with or relating to infectious diseases. Unit six, Bacterial organisms and the diseases they cause. Unit seven, Other organisms and the diseases they cause: Pathogenic spirochetes and spirochetal infections. Pathogenic fungi and molds and mycotic infections. Pathogenic rickettsias and chlamydiae and their infections. Pathogenic viruses and viral infections. Parasitic protozoa and protozoal infections. Parasitic helminths and helminthiasis. Primary arthropod, mycogenic and arthropod diseases conditions. Man's potential ability for survival. Index.

Notes: An introductory treatment that gives broad view of the role of microorganisms and some larger organisms in disease. The book is organized so that it may be used as text in nursing schools

and other educational institutions. Some information is included on diagnosis and treatment of specific diseases caused by living organisms, but the book is not intended as a clinical manual.

FRANCIS CARL C., AND G. CLINTON KNOWLTON

Textbook of anatomy and physiology Second edition. With 365 text illustrations and 31 color plates. St. Louis: The C. V. Mosby Company 1950. 624 p. illus. (part col'd) 22 cm. \$5.00 1519

Contents (abridged): Unit I, The body, body tissues, environment. Unit II, Posture and movement. Unit III, Integrative mechanisms. Unit IV, Mechanisms of the body tissues. Unit V, Reproduction, Growth, Infection.

Note. A standard text for use in nursing schools. Anatomy and physiology are correlated rather than presented as separate subjects. The illustrations are of high quality. The first edition was published in 1943. The original book was extensively reorganized and revised for this edition.

FRANCIS CHARLOTTE A., AND EDNA C. MORSE

Fundamentals of chemistry and applications chosen from inorganic, organic, and biochemistry with applications in physiology, microbiology, nutrition, and everyday concerns. Third edition. New York: The Macmillan Company 1951. 545 p. illus. 22 cm. \$4.50. 1520

Contents (abridged): Substances and how they are recognized. Substances. Physical and chemical changes. Oxygen, the element. Catalytic agents. Chemical changes may involve energy transformations. Introduction to bases, acids, and salts. Volume. A study of water. Solutions. Colloidal solutions. Reactions. Ions and ionization. Oxidation-reduction. An introduction to organic chemistry. Proteins. Chemistry of digestion. Functions and fate of glucose, fats, and proteins in the body. Important physiological functions of electrolytes. Index.

Note. An introductory text for students of nursing, home economics, and other fields where some knowledge of basic chemistry is essential because of its application to life processes. The treatment is simple and largely descriptive. However, more power is given to them in some introductory texts for students of nursing. The second edition was published in 1943. Extensive and important revisions are apparent in this edition.

GOOSTRAY STELLA, AND J. RAE SCHWENCK
A textbook of chemistry. Sixth edition. New York: The Macmillan Company 1950. 401 p. illus. 22 cm. \$3.75 1521

Contents (abridged): Introduction. A chemist looks at nursing. We live in a changing world. Our complex world is made of simple things. Chemical short-hand and weight relationships. From chemical activity to nuclear research. Types of chemical changes and their control. How the states of matter are explained. Oxygen. Radio. The most important compound to life. Behavior of substances in water. The chemical opposites and their reaction products. Electrically charged particles in solution. Two typical families of elements. The most versatile element. The field of organic chemistry. Simple derivatives of the hydrocarbons. Cyclic organic compounds. The chemical nature and functions of food. Chemical changes within the body. Chemistry that control body processes. The chemistry of the blood. Bibliography. Appendix. Index.

Note: (1937) A long-established textbook used in schools of nursing. It contains a selection of basic information from general chemistry, inorganic chemistry, and biochemistry of interest to nursing. Topics such as water, solutions, the chemistry of food, and the chemistry of the blood are discussed more fully than topics less directly related to nursing. Each chapter is preceded by an outline and concludes with summary both being devices to facilitate comprehension on the part of the reader. The 6th edition was published in 1940. The chapter outlines are a new feature in the present edition, and there are numerous other changes.

GREISHEIMER, ESTHER MAUD

Physiology and anatomy 478 illustrations, including 52 in color. Sixth edition. Philadelphia: J. B. Lippincott Company 1950. 841 p. 21 cm. \$5.00 1522

Contents (abridged): Unit one, The body as an integrated whole: Introduction to anatomy. Introduction to physiology. Unit two, The erect and moving body: The skeletal system. The muscular system. Anatomy of the muscular system. Unit three, Integrative and control of the body by the nervous system. Unit four, Maintaining the metabolism of the body: Blood, tissue fluid and lymph. Anatomy of the circulatory system. Physiology of the circulatory system. Anatomy of the respiratory system. Physiology of the respiratory system. Anatomy of the digestive system. Physiology of the digestive system. Anatomy of the secretory system. Physiology of the secretory system and water balance. The regulation of the body temperature. Anatomy and physiology of the glands of internal secretion. Unit five, The reproductive system. Unit six, Activities. Physiology of senses. References. Index and appendix. Bibliography. Index.

Note. (1937) A standard introductory textbook for use in nursing schools. For work of this level it contains a large amount of material but is well organized and adequately equipped with numerous illustrations to facilitate study. No major changes have been made in this edition as compared to the 5th edition published in 1945, but several chapters have been rewritten and extensively revised, and significant material has been added to other chapters. The author is Professor of Physiology in the School of Medicine of Temple University.

JOHNSON, DORIS

Modern dietetics. Edited by Hazel E. Munsell. New York: G. P. Putnam's Sons, 1951. 529 p. illus. (part col'd) 21 cm. \$4.95 1523

Contents (abridged): Part I: Nutrition and health. Protein. Carbohydrates. Energy metabolism. Vitamins. Water and calcium. Planning the adequate diet. Food habits and customs of various national groups. Pregnancy and lactation. Infant feeding. Feeding of children. Nutrition for the aged. Part II: Diet therapy. Identification of the normal diet—in selection of food—in consistency—in energy value—in protein content—in fat content—in carbohydrate content—in mineral content. Part III: Introduction to the study of cooking. Food hygiene. Beverages. Eggs. Cereals. Soups. Vegetables. Fruits. Salads and salad dressings. Desserts. Cheese, Meat, Fish and poultry. Part IV: Appendix: Calculation of food values. General references. Index.

Note. An inclusive, introductory text in which the fundamentals of studies, normal and special dietary requirements, the principal foods, and diet-planning are all discussed. There is somewhat more emphasis on general aspects of dietetics even though the book was planned primarily for student nurses. There are 45 tables of reference data and many typical menus.

MILLARD NELLIE D., AND BARRY G. KING

Human anatomy and physiology Third edition. 309 illustrations with 55 in color. 215 by Lucille Cassell Innes. Philadelphia: W. B. Saunders Company 1951. 596 p. illus. (part col'd) 21 cm. \$5.00 1524

Contents (abridged): Unit one, The body as an integrated whole. Unit two, The erect and moving body. The skeletal system. Arteries. The circulatory system. Unit three, Integrative and control of the metabolism of the body: Blood, lymph and tissue fluids. The circulatory system. The lymphatic system. The respiratory system. The digestive system. Absorption and metabolism. Structure and function of the urinary system. Regulation of body temperature. Unit four, Reproduction of the human being. Unit five, Integration and control of the body by the nervous system. The spinal cord. Initiation and propagation of the nerve impulse. The spinal cord. The brain and cranial nerves. The autonomic nervous system. The special senses. References. Index.

Note. (1927) A long-established introductory textbook designed primarily for use in schools of nursing, but used also in several liberal arts colleges and other centers where an abbreviated treatment is desired. 35 new illustrations have been added in this edition and there has been some revision of the text.

NETER ERWIN

Medical microbiology for nurses. Second edition. With 130 illustrations. 9 in color

Philadelphia F. A. Davis Company 1951.
470 p. illus. 23 cm. \$4.00 1525

Contents (abridged) Introduction—the scope of medical microbiology. Section I, General bacteriology: Morphology, physiology, ecology and classification of bacteria. Destruction of bacteria and other micro-organisms. Section II, Immunology: Antigens and antibodies. Immunity, immunization and serum therapy. Amorphous and allergic diseases. Blood groups, blood transfusion reactions and hemolytic diseases of the newborn. Section III, Special bacteriology: Staphylococci and staphylococcal infections. Streptococci and streptococcal infections. Pneumococci and pneumococcal infections. The gram-negative cocci (Meningococci) and allied infections. The aerobic, gram-negative, enteric bacilli and allied infections. The typhoid, shigellosis and paratyphoid groups and allied infections. Yersinia enterocolitica and Yersinia pseudotuberculosis. The genus Brucella and brucellosis. Bacterium tuberculosis and tuberculosis. The genus Bacillus and Bacillus anthracis and allied infections. Pasteurella pestis and plague. Diphtheria and diphtheria toxin. The genus Corynebacterium and diphtheria. The genus Mycobacterium and allied infections. The genus Neisseria and gonorrhea. The genus Clostridium and allied diseases. The spirilla and allied infections. The normal bacterial flora of the human body. General bibliography. Glossary. Index.

Note An introductory textbook that provides a concise survey of these aspects of microbiology that are of particular interest to nurses. The role of microorganisms in disease, their control by disinfection and sterilization, and their identification are the aspects that are emphasized. Most of the chapters are short; for example, the text on rickettsiae and rickettsial diseases runs to only one page; but in this class of organisms is identified, the diseases due to it are briefly described, the vectors are named, the diagnostic tests are described, and control methods are outlined. In addition, there are timely references to the literature. The first edition appeared in 1944. In the second edition short accounts of antibiotics, such as streptomycin, and of other new developments have been added.

PEPLAU HILDEGARD E.

Interpersonal relations in nursing: a conceptual frame of reference for psychodynamic nursing. Foreword by R. Louise McManus. New York G. P. Putnam's Sons 1952 330 p. illus. 21 cm. \$5.00 1526

Contents (abridged) Part I, Phases and aims in nursing situations. A definition of nursing. Phases of nurse-patient relationships. Behaviors in nursing. Part II, Influences in nursing situations: Nurse needs. Interference to achievement of goals. Opposing goals. Unfulfilled discharge. Part III, Psychological tasks: Learning to count on others. Learning to deny existence. Identifying oneself. Developing skills in perception. Part IV, Methods for studying nursing as an interpersonal process: Observation, communication, and recording. Selected bibliography (by subject). Index.

Note: A well-written book on applied psychology in nursing. It is written throughout in the terms of nurse-patient relationships. As background to the discussion of them, the author delineates the principles of behavior in terms that will enable the student nurse to relate them to her work. The author is Instructor in Working Education at Teachers College, Columbia University.

PROUDITT FAIRFAX THROCKMORTON AND CORINNE HOODEN ROBINSON

Nutrition & diet therapy Tenth edition. New York The Macmillan Company 1950 950 p. illus. (part col d) 22 cm. \$4.50. 1527

Contents (abridged) Section I, Normal nutrition: Food and its relation to health. Proteins. Carbohydrates. Fats. Mineral elements. The fat-soluble vitamins. Water-soluble vitamins. Planning diets for efficiency and economy. Feeding the foreign-born. Section II, Normal nutrition in special conditions: Diet during pregnancy and lactation. Feeding during infancy. Feeding the aged. Section III, Diet therapy: Nutritional diseases. Diet in obesity and underweight—diets and reactions. Diet in diabetes mellitus and endocrinologic diseases of the intestinal tract—diets and endocrinologic diseases—diets of the kidney—diets—gout and arthritis. Section IV, Practical applications of nutrition—elementary dietary sections. Recipes. Tables: Composition of foods. Foods and vegetables classified as to carbohydrates content. Sodium and potassium content of foods. Acid-producing foods. Alkali-producing foods. Cholesterol content of foods. Tables for height and weight. Calculation of lactose and lactic acid work in cereals and dairy products. Bibliography. Additional references. Recipe Index. Index.

Note (1334) A long established (The first edition was published in 1918) textbook for use in schools of nursing and reference manual for graduate nurses. It is used by public health workers and physicians also. In it are covered the basic knowledge of food and nutrition and also wide range of specific information on standard and special diets, culinary and recipes. The sixth edition was published in 1944. In the present edition many changes have been made in both the text and tabular matter. A number of chapters have been extensively rewritten and the book has been revised wherever necessary to align it with the American Dietetic Association's Manual for teaching student nurses.

STERN, FRANCES

Stern's applied dietetics: the planning and teaching of normal and therapeutic diets. Revised by Helen Rosenthal, Pearl C. Baker and Wilma A. McVey Third edition. Baltimore The Williams & Wilkins Company 1949 293 p. illus. 26 cm. \$5.00. 1528

Contents: Part I, The daily food requirements of the body. The construction of the normal diet. The construction of the therapeutic diet. Environmental factors that influence the effectiveness of the diet. The education of the patient on the normal diet. The education of the patient on the therapeutic diet. Part II, Tables to simplify the composition of the diet. Part III, Dietary analysis. Part IV, Typical diets and menus.

Note (1345) A standard book for training students, graduate nurses, public health workers, and others with professional interest in dietetics. It is based on long career in dietetics in the department of the Boston Dispensary (that was eventually named the Francis Stern Food Clinic) in honor of the author. The present edition was prepared after the author's death by the present editor of the Francis Stern Food Clinic and two other of her former associates. In comparison to the preceding edition, Part I is not significantly changed, but the tables, dietary outlines and diets in the subsequent parts have been revised to bring them in line with present knowledge of food composition, nutritive requirements, etc. Part II now contains 41 tables.

UNIVERSITY OF KANSAS. SCHOOL OF MEDICINE

Therapeutic meal plans: a new diet manual. Prepared by The Department of Dietetics and Nutrition, University of Kansas School of Medicine. Edited by Virginia Toews, Berdena Rosenow and Ruth Gordon. Lawrence University of Kansas Press 1952 111 p. 22 cm. \$3.00 1529

Contents (abridged) Routine hospital meal plans. Liquid variations. Carbohydrate, proteins, fat variations. Salt variations. Mineral variations. Acid variations. Fiber variations. Mechanical and chemical variations. Miscellaneous. Calorie variations. Glucose-water variations. Pregnancy and lactation. Infant and child feeding. Diet diets. Additional tables. Index.

Note: This manual is intended to provide the medical and nursing staffs of hospitals with examples of meals which can be readily adapted to meet specific requirements of patients. Each type of diet includes listing of necessary and additional foods, foods to omit, special rules, suggested menu, and the total vitamins and mineral content of each meal plan.

WITTON CATHERINE JONES

Microbiology with applications to nursing. New York McGraw-Hill Book Company Inc., 1950 692 p. illus. 24 cm. (McGraw-Hill series in nursing, Lucile Petry consulting editor) \$4.75 1530

Contents (abridged) Part one, The basic structure and activities of microorganisms: The morphology of bacteria. The physiology of bacteria. Techniques of microbiology. Part two, The control of microorganisms: Control of undesirable microorganisms by physical means. Chemical disinfectants and their use. Control of organisms on and in the human body. Part three, Sources and modes of infection. Part four, Infection and immunity. Part five, Introduction to the study

of pathogenesis. Part six, The pathogenic bacteria. *Salmonella typhosa*. Other bacteria of enteric infections. The *Paratyphoides*. *Corynebacterium diphtheriae* and other nonenteric rods of medical importance. The *Diphtheria* and *Neisseria*. The *Streptococci* and the *Staphylococci*. The pathogenic spore-forming bacilli. *Mycobacterium tuberculosis* and *Mycobacterium leprae*. The pathogenic spirochetes. Part seven, Pathogenic organisms other than bacteria. The *Rickettsiae*. The *Amoebae*. The pathogenic *Ascaris* and *Trichinella*. The pathogenic protozoa. The pathogenic virus. Appendixes. Laboratory methods. Literature and teaching aids. Classification of medically important *Salmonella*. Index.

Notes. In this introductory book there is presented both general and specific information on bacteria and other microorganisms (together with few that are not microscopic) of pathogenic interest. The book is addressed particularly to nurses but the information presented is of background nature, that is to say an attempt is made to cover fully such matters as the specific techniques of nursing patients with communicable diseases. Most of the space is devoted to general control matters which are of interest in such fields as public health and to descriptions of specific organisms. The illustrations include many diagrams of life cycles. The author is Associate Professor of Biology in Syracuse College.

SPECIAL TYPES OF NURSING

ALEXANDER, EUDYTH LOUISE

Operating room technique. Second edition. With 668 illustrations. St. Louis The C. V. Mosby Company 1949 765 p. illus. 26 cm. \$10.00 1531

Contents: General arrangement of an operating room for general surgery. Care and cleaning of the operating room. Working personnel of the operating room. History of asepsis. Sterilization. Wound healing, treatment, and preparation of operative areas. The care and sterilization of equipment. Aseptic technique. Asepsis. Sterilization of dishes and precautions. Surgical positions. Draping of the operative field. Instruments, needles, and suture materials. Bleed, mouth, throat, and neck operations. Chest operations. Abdominal incisions. Digestive system. Small intestine. Liver gall bladder bile duct, pancreas, and spleen. Large intestine. Lower sigmoid, rectum, and anal region. Genitourinary system. Operations upon the genitourinary system. Vaginal gynecologic operations. Abdominal gynecologic operations. Reconstructive surgery of bones, joints, and tendons. Operations upon the spinal cord. Vascular operations. Index.

Notes. (1212) A working school textbook and reference manual in which detailed directions for all nursing procedures carried out in the operating portion of modern hospitals are described in detail. In addition to the specific descriptions, background information is supplied in the first eight chapters and is sections of subsequent chapters. In discussing specific operations, there is usually a brief note on the anatomy of the region and a definition of the condition for which the operation is being performed. These are followed by concise instructions on necessary equipment, anesthesia, positioning of the patient, operative preparation, draping, etc. Another useful feature is the inclusion of illustrations of instruments. The first edition of the book was published in 1942. Although intended for the nurse students as the first edition, the book has now been revised and much expanded. There are three times as many illustrations and substantially more text in the second edition than in the first.

CROSSEN ROBERT JAMES AND ANN JONES CAMPBELL

Gynecologic nursing. Fourth edition. With 167 illustrations, including two in color. St. Louis The C. V. Mosby Company 1951 256 p. illus. (part col d) 22 cm. \$3.75 1532

Contents: Points in anatomy. Points in physiology. Gynecologic symptoms and their significance. Gynecologic history and examination. Public infection. Uterine dysfunctions, injury to the pelvic floor. Artificial. Extraneous pregnancy. Tumors of the uterus. Ovarian tumors. Malformations. Disturbances of function. Gynecologic treatment methods. MENSTRUATION. Public health aspects of gynecologic nursing. Glossary. Index.

Notes. (1117*) An introductory textbook for student nurses. Obstetric nursing is not covered. Instead, the book is limited to nursing techniques in relation to diseases of women. The third edition was published in 1944. This fourth edition is the result of considerable reorganization and revision. The most important changes from the standpoint of users of the book is the placing of the material on nursing care of diseases in the chapter where the disease is discussed. The first named author is Assistant Professor of Clinical

Gynecology and Obstetrics in Washington University School of Medicine and the second named author is Instructor in Nursing in the School of Nursing of the same university.

ELIASON, ELDRIDGE LYON AND OTHERS

Surgical nursing, by Eldridge L. Eliason, L. Krazer Ferguson, and Lillian A. Sholtis. Ninth edition, revised and reset. 336 illustrations including 9 subjects in full color. Philadelphia J. B. Lippincott Company 1950. 728 p. illus. 21 cm. \$4.50 1533

Contents (abridged). Dull case, Introduction to surgical nursing. The surgical nurse and her patient. Inflammation—wound care. Anesthesia and asepsis. Preoperative nursing care. The patient in the operating room. Postoperative care. Trauma and emergency. Dull case, Nursing in conditions of the respiratory system. Surgery of nose, throat, lungs and pleura. Dull case, Nursing in conditions of the circulatory system, the blood and the blood-forming organs. Dull case, Nursing in conditions of the alimentary system: Surgery of lips, mouth, tongue and pharynx. Surgery of the esophagus. Dull case, Nursing in conditions of the urinary tract—male urinary Dull case, Nursing in conditions of the integumentary system (including subcutaneous and arthroplasty and the breast). Dull case, Nursing in conditions of the eye and the ear. Dull case, Nursing in conditions of the endocrine glands. Dull case, Nursing in conditions of the nervous system. Dull case, Nursing in conditions of the musculoskeletal system. Dull case, Nursing in conditions of the reproductive system. Dull case, Nursing in surgical emergencies. Dull case, Nursing in surgical aseptic technique. Index.

Notes. (1847) A best established textbook used in courses offered to student nurses. Although still designed as an introduction to the techniques of surgical nursing, this edition represents an extensive revision with much new material added. The material presented is not limited to nursing techniques but includes enough of anatomy and physiology to enable the nurse to grasp intelligently the principles and treatment of surgical diseases and to appreciate her responsibility to the care of her patient. The techniques of postoperative care are well covered. Selected literature references are included in all of the sections. Two of the authors are associated with the University of Pennsylvania School of Medicine and one of them is member of the faculty of the Yale University School of Medicine.

ELMAN BERT

Surgical care a practical physiologic guide. New York Appleton-Century-Crofts, Inc., 1951 586 p. illus. (part col d) 25 cm. \$10.00 1534

Contents: Introduction. Systemic reactions to trauma. Physiologic factors in surgery. Nutrition in surgery. Physical factors in surgery. Radio preoperative care. Anesthesia, by M. S. Ball. Radio preoperative care. Therapy and resuscitation, by M. S. Ball. Radio preoperative care. Chemotherapy in surgery. Postoperative pain. Pulmonary complications. Thromboembolic disease. Postoperative renal dysfunction. Surgical shock. Wound healing. Abdominal complications. Postoperative fever. Thermal injury. Author index. Subject index.

Notes: A textbook on comprehensive care of surgical patients. It covers care both before and after operations; and there are also chapters on anesthesia and resuscitation which are, of course, related to the operation itself. All of the material is written from the point of view of the basic physiological principles. Nevertheless, there are exposures to specific and directly related to the daily work of basic physicians and nurses. For example, formulas for the tube feeding of patients are included. The author is Professor of Clinical Surgery of the School of Medicine of Washington University.

FADDIS MARGENE O, AND JOSEPH M. HAYMAN JR.

Care of the medical patient a textbook for nurses. New York McGraw Hill Book Company Inc. 1952 654 p. illus. 23 cm. (McGraw Hill series in nursing, Lucile Petty consulting editor) \$4.50. 1535

Contents (abridged). Part one, Introduction. What are the qualifications for good medical nursing? The importance of understanding the patient. The examination of the patient. Some important methods to injury. Part two, The patient's needs and the nurse's responsibilities. The nature and importance of special needs. The patient with

series, acute illness. The patient with long-term illness. The aging patient. The patient with disturbance of consciousness and of nerve movements. Part three, Special treatments and diagnostic procedures: The administration of oxygen. The aspiration of fluids from body cavities. Part four: Nursing patients with particular diseases. Visual aids. Index.

Notes: In writing this book the authors took into account (1) the increasing number of patients with chronic illnesses such as the aged, (2) the importance of psychological rapprochement between nurse and patient, and (3) the nurse's part in the education of the patient and his family to care for himself and to live with his illness. An understanding of these new factors is successful nursing as stressed as an important adjunct to technical knowledge and skills. The greater part of the volume (473 pages) is devoted to diagnosis of particular diseases, written from the nurse's standpoint. This part has considerable reference value for graduate nurses. The authors are faculty members of the School of Nursing and the School of Medicine of Western Reserve University.

FELTER, ROBERT KENNETH, AND OTHERS

Surgical nursing. By Robert K. Felter Frances West, and Lydia M. Zetsche, and associates. Sixth edition. With 363 illustrations 7 in color Philadelphia F. A. Davis Company 1952 768 p. illus. (part col'd) 23 cm. \$4.50 1536

Contents (abridged): Unit I, Introductory and basal pathological states: Inflammation and infection. Unit II, Surgical skills and nursing: Preoperative states: Anesthesia. General postoperative nursing care (during normal convalescence). Unit III, The respiratory system: Surgical treatment of pulmonary tuberculosis and nursing care. Unit IV, Diseases of the cardiovascular and the lymphatic systems. Unit V, Diseases of the gastrointestinal system: Surgery of the stomach and duodenum and nursing care. Bile and pancreatic care. Unit VI, Gastrointestinal surgery: Surgical procedures and postoperative nursing care. Unit VII, Surgery of the urinary and urogenital systems: Diseases of the urinary system. Tuberculosis of the urinary system. Specific, infectious, and transportation of the urinary tract. Unit VIII, Endocrine diseases. Unit IX, Surgery of the nervous system. Unit X, Eye, ear, nose, and throat. Unit XI, Infectious diseases: Bacteria. Unit XII, The female reproductive system. Unit XIII, Plastic and reconstructive surgery. Unit XIV, The nurse in the operating room. Index.

Notes: (2349) A textbook for use in schools of nursing. Classes of students and individual nurses which are trained by surgery are described from the nurse's viewpoint. It is useful for all nurses. It is an outline of the basic anatomy and physiology and a discussion of pathology etiology and descriptions of types and groups. However, the main emphasis is on pre- and post-operative care. The 6th edition was published in 1948. It was extensively revised for this edition. Many changes were made in the text and more than 100 of the illustrations are new.

FUNSTEN, ROBERT VIVIAN AND CARMELITZA CALDERWOOD

Orthopedic nursing. Second edition. With 208 text illustrations. St. Louis The C. V. Mosby Company 1949 660 p. illus. 22 cm. \$4.25 1537

Contents (abridged): Unit I, Introduction for the teacher and the student: Orthopedic principles in general nursing. Unit II, General features of orthopedic nursing: Nursing care of cast patients. Nursing care of the orthopedic surgical patient. Physical therapy. Unit III, Casts and acquired deformities. Unit IV, Bone diseases in children. Unit V, Acute and chronic inflammation of joints. Unit VI, Fractures, dislocations, sprains, and other joint injuries: Nursing care of the fracture patient. Amputations. Nursing care following amputations. Nursing care of patients in traction. Unit VII, Static deformities and disabilities. Unit VIII, Conditions resulting from injury or disease of the brain, spinal cord, and periphery: Nursing care of patients with poliomyelitis. Nursing care of patients with cerebral palsy. Progressive muscular dystrophy. Unit IX, Bone tumors. Unit X, Conditions of the foot. Unit XI, Bone disorders in adolescent and adult life. Osteoporosis. Bone diseases in adult life. Stopped femoral epiphysis. Glossary. Index.

Notes: An outstanding textbook on the nursing of orthopedic patients. It is used mainly as a textbook in courses offered to nursing school students who are preparing for this specialty but it is useful also to graduate nurses working in other branches of nursing who are called upon to care for orthopedic cases. The specialized techniques of orthopedic nursing are covered in full detail and the

necessary background of medical information on diseases that cause deformities is included also. The book is written in a direct style that is easy to understand and is well illustrated. The first edition was published in 1943. The scope and content of this edition are essentially the same except for new material on such matters as the nursing care of paraplegic patients, early mobilization, and the use of hot, moist packs in the treatment of poliomyelitis. The number of pages has been increased by 58 and the number of illustrations by 27. A selection of recent literature has been added to the lists of references.

GILBERT, RUTH

The public health nurse and her patient. Cambridge Mass. Published for The Commonwealth Fund by Harvard University Press, 1951 348 p. 24 cm. \$3.75 1538

Contents: Mental hygiene in public health nursing. Teaching health. Nurse and maternity patient. The child in his family. Nursing the sick patient. Relationship with co-workers. Bibliography. Index.

Notes: (2578) An illuminating presentation of attitudes and relationships among patients and nurses engaged in public health nursing. The book is addressed to the public health nurse but it is devoted mostly to the patients. Family situations and typical problems of individual patients are both discussed thoroughly together with indications of the nurse's part in helping to solve them. The first edition appeared in 1940. This edition represents an extensive revision based on larger experience and upon the literature published since 1940.

HETHERINGTON, HUBERT WILLOWS, AND FANNIE W. EGGLEMAN

Nursing in prevention and control of tuberculosis. Revised third edition. Illustrated with photographs and charts. New York G. P. Putnam's Sons, 1950 361 p. illus. 21 cm. \$4.50 1539

Contents: Pulmonary tuberculosis—history epidemiology etiology, pathology symptoms. The diagnosis of tuberculosis. Treatment of pulmonary tuberculosis. The management of pulmonary tuberculosis and its complications. Tuberculosis and pregnancy. Coughs therapy in pulmonary tuberculosis. Tuberculosis in children. Tuberculosis control—prevention. Prevention of tuberculosis among nurses. Nursing in the treatment of tuberculosis. The prevention of tuberculosis. Tuberculosis dispensary or chest clinic. Family health service. Family case studies. Rehabilitation. Appendix. Index.

Notes: A strong college textbook in which information on the special nursing techniques of tuberculosis nursing is combined with general and public health on this disease. There is a long chapter on the prevention of tuberculosis and related information in other chapters. The book has potential value for school case workers and other persons outside the nursing profession who have professional interest in the tuberculosis problem. However, its chief purpose is the information and instruction of students and graduate nurses. Selected literature references are included. The first named author is Chief of Clinic of the Henry Phipps Institute of the University of Pennsylvania and the second author is Supervisor of Public Health Nursing in the same institute.

KALKMAN, MARION E.

Introduction to psychiatric nursing. New York McGraw Hill Book Company Inc., 1950 336 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) \$4.50 1540

Contents (abridged): Part one, Preliminary considerations: Learning to observe the psychiatric patient. Part two, Understanding the patient. Part three, What can be done for the patient: Patient's history. Physical methods of treatment. Psychological and social methods of treatment. Treatment in psychiatric treatment. Part four, How the psychiatric nurse works: Treatment of some general concepts of psychiatric nursing. The problem of restraint. The problem of suicide. Psychiatric nursing orders and statistics. The nurse's first experience on psychiatric service. Talking to psychiatric patients. Part five, Suggestions for the nursing care of various types of psychiatric patients: The acute and psychiatric medicine patients—hypertensive and hypotensive states. Anesthetics, acids, and chemicals.

organic reactions. Paranoia, panic, and anxiety states. Hysterical and neurotic reactions and personality disorders. The psychiatric nursing care of the individual patient. Index.

Notes: A clearly written book addressed to student nurses and graduate nurses who are acquainted with basic nursing techniques. Practically all of the space is devoted to psychological and psychiatric topics which are directly important in psychiatric nursing or are useful as background. Little is included on general nursing procedures. Extensive lists of the related literature are included. The book is based on the author's extensive experience in psychiatric nursing and in the teaching of psychiatric nursing to others.

KNOCKE, FREDERICK JOHN, AND LAZELLE S. KNOCKE

Orthopaedic nursing. 312 illustrations. Philadelphia: F. A. Davis Company 1951 682 p. illus. 23 cm. \$5.50 1541

Contents (abridged): Unit II, Psychology: Psychology of orthopaedically handicapped, by H. R. Holsinger. Unit III, Rehabilitation: Rehabilitation—a composite science, by Col. J. N. Smith, Jr. Role of nurse in rehabilitation. Unit IV, Postoperative: Care of postoperative patient. Orthopaedic surgical patient. Care of cast patient. Care of traction patient. Patient on frame. Unit V, Up patients: Care of semibedridden and ambulatory patients. Unit VI, Home care: Orthopaedic implications in community nursing, by M. Kart. Unit VII, Special therapies: Physical therapy, by R. C. Adams. Occupational therapy, by E. H. Brooker. Daily-activity teaching, by M. S. Brown. Unit IX, Appendix: Fundamentals of orthopaedic nursing. The postoperative patient. Appendix. Index.

Notes: A textbook that is introductory to this specialized field of nursing but which nevertheless provides full and explicit discussion of present-day techniques including the psychological and occupational therapy aspects. Selected bibliographies and lists of visual aids accompany the chapters. The first-named author is an orthopaedic surgeon on the faculty of the College of Physicians and Surgeons of Columbia University and the second author, his wife, is one who has specialized in orthopaedic nursing.

LYNCH, THERESA INEZ

Communicable disease nursing. Second edition. With 131 text illustrations and 4 color plates. St. Louis: The C. V. Mosby Company 1949 776 p. illus. (part col'd) 22 cm. \$4.75 1542

Contents (abridged): Part I, Orientation to communicable diseases: Importance for communicable diseases nursing. Prevention and control of communicable diseases. Vaccines, immune sera, and serum reactions. Epidemiology and statistics. Medical aspects. Part II, Medical aspects and nursing care of communicable diseases: A. Diseases spread mainly by discharges from the nose and mouth. B. Diseases spread mainly through discharges from the skin and mucous membranes. C. Diseases spread mainly through discharges from the gastrointestinal tract. D. Diseases transmitted mainly by infected vectors. E. Diseases transmitted mainly by infected insects. Part III, Tuberculosis. Part IV, The venereal diseases. Part V, Communicable diseases and the community. Appendixes: Morbidity reporting requirements. Protection techniques suggested for general hospitals. Nursing procedures. Glossary. Index.

Notes: (1553) A textbook for use in nursing schools. In it the special techniques of communicable disease nursing are described fully and, in addition, enough information is included on medical aspects such as etiology, sources of infection, causes of the disease, complications and treatment to give the nurse an adequate background for informed and sympathetic nursing. There is a special chapter on home care which is of interest both to the public health nurse and to those practicing privately. The first edition was published in 1942. For this edition three chapters were added and numerous revisions were made in those carried over. Many of the changes were reflection of the advances in the control of communicable diseases made during World War II.

MODELL, WALTER

Handbook of cardiology for nurses: the disease the patient, modern concepts of treatment. Foreword by Edna L. Fritz. New York: Springer Publishing Company Inc. 1952 246 p. illus. 22 cm. \$3.50 1543

Contents: Anatomy and physiology. Pathology and pathologic physiology. The cardiac examination. Signs and symptoms of heart

disease. X-rays, electrocardiography and other instrumental procedures. Laboratory tests. The course of heart disease. Heart attack. Heart failure. Disorders of cardiac rhythm. Etiology of heart disease. Congestive heart disease. Rheumatic heart disease. Infectious heart disease. Hypertensive heart disease. Arteriosclerotic heart disease. Bacterial endocarditis. Less common forms of heart disease. Functional heart disease. Complications of heart disease. Emphysema in heart disease. Treatment of heart disease. General nursing care. Drugs. Surgery. Chemotherapy. Habit and hygiene. Psychopathology. The outlook for the cardiac patient. Appendix. Index.

Notes: Not a textbook but a self-instruction manual and reference book. In it are presented the essentials of heart disease, nursing care in heart disease, drugs and other therapies, all from the standpoint of nurses who are concerned with cardiac patients. The appendix contains typical low sodium diet and tabulation of the amounts of sodium in considerable range of common foods. The author is a member of the faculty of Cornell University Medical College.

MORRISSEY, ALICE B.

Rehabilitation nursing. Foreword by Howard A. Rusk. New York: G. P. Putnam's Sons, 1951 299 p. 21 cm. \$5.00 1544

Contents: Part I, The meaning of rehabilitation: Historical survey of rehabilitation. Lackness of disability in the United States. Integration of personality in disability. The nurse's role in rehabilitation. Part II, Nursing principles and procedures in rehabilitation: Fundamentals of nursing care in rehabilitation. Nursing concepts in general rehabilitation. Procedures for bladder and bowel rehabilitation. Measures for the prevention and care of depressive states. Teaching the activities of daily living. Techniques of crutch walking. Care and use of mechanical leg braces. Wheel chairs. The nurse and speech rehabilitation, by Edward E. Baker, Jr. Part III, Nursing practice in rehabilitation: The care of the amputee. The care of the hemiplegic patient. The care of paraplegic and quadriplegic patients. Index.

Notes: In this book current techniques in the rehabilitation of physically handicapped persons are presented for nurses. Most of the discussion pertains to the care and teaching of such patients. However, this manual is presented against the background of the broader viewpoint of full rehabilitation. Thus there is long discussion of the psychological aspects. Lists of references accompany the chapters, and there are 34 figures. The author is Supervisor of Nurses Service, Department of Physical Medicine and Rehabilitation, Bellevue Hospital.

MULLER, THERESA GRACE

The nature and direction of psychiatric nursing: the dynamics of human relationships in nursing. Philadelphia: J. B. Lippincott Company 1950 379 p. 21 cm. \$5.00. 1545

Contents: Part one, Status of psychiatric nursing: Introduction. Mental illness. Mental institutions. Psychiatric nurses and nursing education. Psychiatry and medical education. Psychiatric social work and clinical psychology. Therapeutic and non-therapeutic measures. Part two, Nature of psychiatric nursing: Role of the nurse in psychiatric therapy. Psychodynamics of behavior disorders. Delusional behavior. Offensive behavior. Psychosomatic response. Community aspects. Part three, Direction of psychiatric nursing: The social curriculum. Instruction planning in advanced psychiatric education. Psychiatric nursing in advanced psychiatric education. Evaluation and research. Bibliography. Index.

Notes: Rather than a textbook, this work is more book of information on the current status of psychiatric nursing in the United States of America. The special nature of psychiatric nursing is distinguished from other types of nursing, and on the basis of psychiatric nursing. There is much in it of interest to persons who are responsible for curricula in nursing schools. Also, there is much for the graduate nurse who is considering entering the field of psychiatric nursing or who is generally interested in the social curriculum of nursing. Lengthy bibliographies are included in each chapter. The author is Associate Professor of Nursing in the Psychiatric Department of Boston University School of Medicine.

NEWTON, KATHLEEN

Geriatric nursing. St. Louis, Mo. The C. V. Mosby Company 1950 420 p. illus. 22 cm. \$4.75 1546

Contents: Unit I, General background: The nurse and the patient. Basic psychogeriatric needs. Employment and economic security. Housing in health and during illness. Unit II, Musculoskeletal

consideration: General hygiene. Nutrition. Diet in. Clinical nursing: Special Obstetrics. Anesthesia and operative care. Nursing in disease of the gastrointestinal tract. Nursing in cardiovascular renal disease. Nursing in disease of the ear, nose, and throat. Nursing in disease of the chest. Nursing in diabetes mellitus. Nursing in disease of the skin. Nursing in disease of the eye. Menstrual relief. Psychiatric nursing. Orthopedic nursing. Urologic nursing. Geriatric nursing. Index.

Note: Both the general aspects and specific techniques associated with the nursing care of aged people are covered in this book. Much attention is given to the importance of viewing the patient as person and obtaining sympathetic understanding to him. Diseases of the aged are described from the nurse's viewpoint. The book is designed for use as text in nursing schools and also self-instruction material. Librarian references are included. The author is in charge of Geriatric Nursing Education at Cornell University-New York Hospital School of Nursing.

PILLSBURY MARY ELIZABETH AND ELIZABETH JOHANNA SACHS

Nursing care of communicable diseases prophylactic techniques for the prevention and the control of disease. Science adviser and editor Jean Broadhurst. Contributors, Jessie Wright and Jane Taylor Torrance. Seventh edition. 146 figures, 23 charts, 3 color plates. Philadelphia J. B. Lippincott Company 1952 843 p. illus. (part col d) 21 cm. \$4.50. 1547

Contents (abridged): Part one, The communicable disease and techniques for the control of communicable diseases. Part two, The nursing care of communicable diseases. Part three, Historical review of hospital and public health care of communicable diseases. Part four, Supplementary material. Index.

Note: (1952) A successful textbook for use in schools of nursing. It contains one part of the modern and contemporary with the basic principles of nursing. In part one such topics as control organisms, resistance to disease, prophylactic techniques are covered. In part two, the communicable diseases are considered individually and their nursing care is described in detail. The content of part three is obvious from its title. In part four references are on diagnostic procedures, diseases of literature, culture and social such as have been collected. The sixth edition was published in 1943. It was very extensively rewritten in preparing this edition. New chapters have added and new illustrations were inserted in sections and completely revised. The number of pages was increased by more than 300. The general bibliography was revised so that it now includes chiefly recent books.

SKITZER ALBERT PINCUS

Diseases of the eye, ear, nose and throat a textbook for nurses. With the technical assistance of Bernard C. Gettes. New York McGraw Hill Book Company Inc., 1950 347 p. illus. 24 cm. \$4.50. 1548

Contents (abridged): Part one, General considerations. Part two, The eye. Part three, The nose. Part four, The mouth. Part five, The throat and the pharynx. Part six, The larynx and its disorders. The trachea. Part seven, The ear. Part eight, Special subjects. Visual aids. Index.

Note: An inclusive work which covers the basic anatomy, physiology, and pathology leading to those are of concern to nurses but is devoted chiefly to nursing techniques. Techniques described explicitly. The author's style is lucid. There are short lists of literature references and 14 figures.

STEELE KATHARINE McLEAN, AND MARGUERITE LUCY MANFREDA

Psychiatric nursing. Fourth edition. 91 illustrations. Philadelphia F. A. Davis Company 1951 546 p. illus. 22 cm. 1549

Contents (abridged): Unit 1, Historical background. Unit 2, Introduction to psychiatric nursing. Orientation. Legal aspects of psychiatric nursing. Mental hygiene and prevention. Unit 3, Studying the psychiatric patient: Case study. Staff consultation. Unit 4,

Fundamental nursing care: Environmental management. Hygiene. Nutrition. Treatment of physical complaints. Night nursing. Unit 5, Orientation, medication, and convalescent patient. Unit 6, Practical procedures: Charting. Special procedures. Prevention and treatment of stress. Unit 7, Specific mental disorders: Psychosis with mental deficiency. Psychopathic personality. Psychoneurosis. Organic psychosis. Paranoia and paranoid types. Schizophrenia (dementia praecox). Unit 8, Therapeutic techniques: Psychotherapy. Shock therapy. Educational therapy. Hydrotherapy. Psychotherapy. Unit 9, Psychiatric nursing outside the psychiatric hospital. Care of mental patient in the home. Application of psychiatric principles in the general hospital. Working with the mental patient. Psychiatric nursing in public-health work. By W. W. Warner. Glossary. Index.

Note: (1950) A standard text for graduate and student nurses who are preparing for the specialty of psychiatric nursing. It is outstanding for its full descriptions of nursing procedures in the care of mentally disturbed patients. Therapeutic techniques such as hydrotherapy are described in detail from the nurse's viewpoint. The third edition was published in 1933. The fourth edition represents major revision with large number of new chapters and extensive revision to chapters that were carried over.

WEST JOHN PETTIT AND OTHERS

Nursing care of the surgical patient, by John Pettit West, Manelva Wylie Keller and Elizabeth Harmon. Fifth edition. Formerly *Textbook of surgical nursing* 4th ed., by MacFae and Keller. New York The Macmillan Company 1951 300 p. illus. 22 cm. \$4.00. 1550

Contents: Unit 1, Introduction to surgical nursing. Unit 2, Fundamental considerations. Unit 3, Nursing care. Index.

Note: (1934) A standard textbook for use in schools of nursing. Contains information on diseases treated by surgery accompanied full descriptions of nursing techniques. The style is simple and direct. The sections on the nursing home which appears in earlier editions have been dropped. The book is consequently shorter. In the previous editions numerous revisions have been made. There are now 70 figures, good selected bibliography, and detailed index.

WOODWARD HENRY L. AND BERNICE GARDNER

Obstetric management and nursing With sections on Home deliveries, by William P. Gillespie. Diseases of the newborn, by Harold P. Downing and The public health nurse in obstetrics by F. Kirby Harder. Fourth edition. 490 illustrations, 7 in color. Philadelphia F. A. Davis Company 1951 844 p. illus. (part col d) 23 cm. 1551

Contents (abridged): Unit 1, The background of obstetric nursing. Unit 2, Anatomy and physiology correlation. Unit 3, Normal pregnancy and prenatal care. Symptoms, signs and diagnosis of pregnancy. Unit 4, Pregnancy. Medical hygiene of the pregnant woman. Minor disorders of pregnancy. Examination preliminary to labor. Unit 5, Normal labor and its management with nursing care. Physiology of normal labor. Management of normal labor. Care during normal puerperium. Care of the normal newborn infant. Case study of normal obstetric patient. Unit 6, Home delivery and public health obstetric nursing. Unit 7, Abnormalities of pregnancy and nursing care. Symptoms of pregnancy and nursing care. The symptoms of pregnancy and nursing care. Late prenatal complications of labor. Unit 8, Obstetric labor and operative obstetrics. Unit 9, Postnatal complications. Unit 10, The abnormal infant and its care. Index.

Note: (1953) One of the standard textbooks used in schools of nursing as an introduction to the nursing specialty. The range of information presented in this text is unusually inclusive. Furthermore, the text is supplemented by a rich number of illustrations. The inclusion of sections on home delivery is an noteworthy feature. The edition was revised in 1945. The revision of the book and the new content were welcomed in preparing this edition. However, numerous other changes made necessary by such advances as the introduction of new methods of anesthesia and such as various sections have been revised. There are now 490 illustrations and 7 in color. The selected bibliography and index have been added. A new supplementary index of the chapters.

ZABRISKIE, LOUISE, AND NICHOLSON J
EASTMAN

Nurses handbook of obstetrics. 377 illustrations, including 8 color plates. Ninth edition completely revised. Philadelphia J B Lippincott Company, 1952 695 p. illus. (part col d) 21 cm. \$4 75 1552

Contents (abridged): Unit one, Human reproduction; Abnormal obstetric nursing. Anatomy as basis for obstetrics. Physiology in relation to obstetrics. Development and physiology of the fetus. Presentations and positions. Unit two, Nursing in pregnancy; Prenatal care. Prenatal care. Complications of pregnancy. The mental hygiene of pregnancy. Preparations for labor and delivery. Unit three, Nursing during labor and delivery. Anesthesia and

analgesia in labor. Conduct of normal labor. Operative obstetrics. Unit four, Nursing during the postpartum; Maternal postpartum. Complications of the postpartum. Unit five, The neonatal period: The nursing care of the new baby. Nursing care of the premature baby. After-care of the baby. Unit six, Additional maternity administration: History of obstetrics. Teaching aids. Glossary. Index.

Note: (1954) A long-established textbook, outstanding for comprehensiveness, the clarity of the presentation, and the number and quality of the illustrations. Although intended primarily for use in organized classes it is useful also as a reference book by qualified public health nurses, etc. The first-named author was formerly Night Supervisor in the Lying-In Hospital, New York. The second-named author is Professor of Obstetrics in the Johns Hopkins University. The eighth edition was published in 1943. For this ninth edition the book was reorganized and the type reset. A new chapter has been added and many revisions have been made in other chapters. The revisions relate to such important topics as prenatal care, the 4th factor, new analgesics and anesthetics, care of premature babies, etc. Many illustrations have been added.

HOSPITALS

FAXON, NATHANIEL WALES editor

The hospital in contemporary life. Cambridge Harvard University Press, 1949 288 p. illus. 22 cm. \$5.00. 1553

Contents: The development of the hospital, by E. D. Churchill. The role of medicine, by H. K. Beecher. Human nature and the understanding of disease, by S. Cobb. The care of the patient, by L. E. McKhitrack. The education of the doctor, by O. Copp. How medicine grows and its relation to science, by K. M. Landon. Un solved problems, by J. C. Ash. The place of the hospital in the social order, by H. W. Fennell. Index.

Note: The primary purpose of this book—composed of the revised texts of lectures originally delivered under the sponsorship of the Lowell Institute—is to promote on the part of the general public an informed and sympathetic understanding of the social importance of the hospital. However, only the author of the final lecture has addressed himself specifically to the hospital as a social institution. Several other chapters are devoted to highlights in the history of medicine and of hospitals. The authors are members of the staff of the Massachusetts General Hospital and the faculty of the Harvard Medical School.

HAUN, PAUL

Psychiatric sections in general hospitals an architectural record book. New York F. W. Dodge Corporation, 1950 80 p. illus. 26 cm. 1554

Contents (abridged): Introduction, by E. A. Mueselinger. Psychiatric sections in general hospitals. Analysis of floor plans. The psychiatric floor incorporated in general hospital, by C. Butler and A. Kohnstamm. Bibliography. Index.

Note: This book is held out for the inclusion of psychiatric sections in the planning of general community hospitals and discussion of the design of such sections or floors. Included are critical discussions and copies of eight floor plans of psychiatric units in general hospitals. The author is a member of the faculty of Georgetown University Medical School.

McGIBONY, JOHN R.

Principles of hospital administration. New York G. P. Putnam's Sons 1952 540 p. illus. 21 cm. \$6.80. 1555

Contents (abridged): Section 1, Introduction. Section 2, Planning for services. Measuring the community. Fund raising. Functional plans for hospital construction. Section 3, Planning for operations. Functional hospital organization. The governing board of the hospital. The medical staff. The administrator. Section 4, Management services. Public relations. Legal responsibilities. Hospital personnel. The business office. Plant operations. Safety fire and disaster programs. Section 5, Clinical services: Medical services. Surgical services. Obstetrical services. Nursing services. Pathology and clinical laboratory services. Radiological services. Pharmacy services. Dental services. Medical records. Dietary services. Outpatient services. Index.

Note: This book is both an introduction to current methods in hospital management and a reference book on hospital organization, policies, and daily administration. Obtaining support for a community hospital and the major steps in building such a hospital are covered in the second part. Practically all of the rest of the book is devoted to the general and specific problems of organization and management. The long section on the individual clinical services is both a statement of good standards and a description of such details as lighting and equipment. The author—who is now Chief of the Division of Medical and Hospital Services of the United States Public Health Service—is a medical college graduate and nationally known authority on hospital administration.

ROSENFIELD, ISADORE

Hospitals integrated design. Second edition completely revised. New York Reinhold Publishing Corporation, 1951 398 p. illus. 10 cm. \$15.00. 1556

Contents: Integration of facilities. General considerations and functional elements. The nursing unit. Miscellaneous facilities. X-ray and radiation therapy. Laboratories and x-ray. The operating department. The maternity and pediatrics departments. Service departments. The outpatient department. Communicable diseases and infectious diseases. Cancer and chronic disease hospitals. Psychiatric hospitals. Convalescent, rehabilitation and cardiac hospitals. The small hospital. Housing and training facilities. Daylighting for hospitals. Artificial illumination. The mechanical plant. Hospital construction. Details and tables. Hospital construction cost. Index.

Note: (1934?) A survey of good current practice in the design and construction of hospitals. Most of the space is devoted to discussion of the various facets of design. Numerous floorplans of modern hospitals are included. Also included are many photographs of rooms and details. The first edition was published in 1947 and was based largely on lecture notes by the author at New York University and Columbia University. In this edition the scope of the book has been considerably extended and the material reorganized and expanded. There are now over 300 figures. The author is an architect who has specialized for many years in hospital planning.

PERSONAL HYGIENE AND FIRST AID

AMERICAN RED CROSS

First aid textbook for juniors. Philadelphia The Blakiston Company 1949 132 p. illus 22 cm. \$1 00. 1557

Contents (abridged) Suggestions for instructors. The certifying course. Materials needed. Need for first aid. Shock. Wounds. Dressings and bandages. Bruises. The circulatory system. First aid for bleeding. Special wounds and eye injuries. The breathing system. Artificial respiration. Artificial respiration and resuscitation. Poisoning. Body framework. Fractures. Signs of and first aid for fractures. Dislocations and sprains. A general plan for giving first aid. Moving injured or sick persons. Injuries due to heat and cold. Unconsciousness. Common illnesses. First aid kits. Index.

Note. This textbook comes from the standard first aid course of the American Red Cross in that it is specifically designed for young people from twelve to fourteen years old. The descriptions are written in simpler language and the steps of injuries covered is less extensive. The book is designed for use in organized classes and the chapters are accompanied by review questions.

COLE, WARREN HENRY, AND CHARLES B. PURSTOW

First aid surgical and medical. Illustrated by Carl Linden and Tom Jones. Fourth edition. New York Appleton-Century-Crofts, Inc., 1951 432 p. illus. 22 cm. \$4.00 1558

Contents: Fractures and dislocations in first aid work, by W. H. Cole. General principles of first aid—consciousness regarding first aid—medical needed, by W. H. Cole. Anatomy and physiology, by C. B. Purstow. Bandaging, by W. H. Cole. Wounds, by W. H. Cole. Shock—blood transfusions, by C. B. Purstow. Injuries to large blood vessels, by Cole de Taketa. Burns—first aid, by F. W. O'Leary. Transportation of the injured, by L. Seed. Fractures, dislocations and sprains, by R. B. Thomas and F. W. Back. Compound fractures—compound collections, by R. B. Thomas and C. W. Lambert. Gas and blood gases, by H. C. Leach. Respiratory emergencies, by W. H. Cole. Injuries of the chest, by W. Van Dine. Abdominal emergencies, by W. C. Back. Emergencies of the genitourinary tract, by C. M. McKenna and J. H. Elder. Wounds of the mouth, face and neck, by L. W. Schmitt. Injuries of the scalp, skull, spine and nervous system, by E. Oldberg and P. Bailey. Medical emergencies, by R. W. Kerrison and M. M. Montgomery. The prostrate patient, by W. H. Cole. Civilian versus military casualties, by C. B. Purstow. Miscellaneous conditions frequently requiring first aid care, by W. H. Cole. The text, by C. B. Purstow. First aid is industry by W. F. Lytle and R. C. Kilbourn. References. Index.

Note. (1558) A book which is instructive enough to be of practical value not only to laymen, but to those taking training in first aid but also to nurses and physicians. Some of the material is more advanced than is commonly included in books on first aid treatment but care has been taken to point out how first aid treatment should be given only as precautionary measures or not at all and the injured or ill person turned over to physicians. Some of the information on treatment is addressed specifically to the physician rather than to the lay worker. The third edition was published in 1941. Much of its text has been carried over to this edition. However, revisions have been made wherever advances in medicine have made them necessary. A chapter has been added on first aid to industry; another has been added on first aid to aquatic warfare; and recent literature has been added to the bibliography.

Company, Inc. 1949 595 p. illus. 24 cm. (Whittlesey House health series, Morris Fishbein editor) \$5.50. 1559

Contents: Possibilities of longer life and better health. Major health problems. Why we eat and drink. The choice of food. Weight and its control. Digestive disturbances. Dietary abuses. Stimulants and narcotics. Exercise—design—rest. Smoke and ash. Specific disease prevention. Colds and influenza. Care of the nose, throat, and ears. The conservation of vision. Good teeth. Care of the skin and hair. Glands of internal secretion. Mental rest. Modern parathood. Mental health. Health problems of advanced years. Choosing health advice. Community health. Organized health work. Appendixes. Index.

Note: (1559) A standard manual of personal hygiene. Its first edition published in 1933 was specifically designed for the general reader but its subsequent editions changes were made to adapt it to use in introductory college courses. The change in title in the present edition apparently reflects a reduction in the layman. However the scope and contents are not much changed in comparison to the preceding editions. The book remains substantial and fairly comprehensive guide to reliable health practices, and is characterized by careful descriptions of planned experiments and other scientific foundations for statements on controversial issues, or rather those issues on which the layman is apt to be confused. For example, in the discussion of the treatment of colds the editor describes several experiments planned to determine the effect of vaccines, the injection of extra quantities of vitamin, and of cold medicines. The preceding edition appeared in 1941. Numerous minor changes have been made throughout the text, and the type was reset for this edition.

DIEHL, HAROLD SHEELY, AND RUTH E. BOYNTON

Personal health and community hygiene a revision of *Healthful living for nurses* Second edition. New York McGraw Hill Book Company Inc. 1951 469 p. illus. 24 cm. (McGraw Hill series in nursing, Lucile Petry consulting editor) \$4 75 1560

Contents (abridged) Self-guarding the health of nurses. Mental health. Nutrition and growth. Stimulants. Exercise—its purpose. Weight and health. Specific disease prevention. Colds and influenza. Care of the nose, throat, ears, and teeth. The conservation of vision. Care of the skin and hair. Care of the feet. Glands of internal secretion. Sex life and maternal diseases. Modern parathood. Health problems of advancing years. Community health. Treating communicable diseases. Asthma, heart, and lungs. Nutrition and health. Health in school and on the job. Government and health. Voluntary health services. Appendixes. Index.

Note. (2708) A textbook used in nursing schools and in non-professional courses in hygiene under its two previous titles, *Healthful living for nurses* and *Textbook of healthful living*. The book has been a standard text of instruction for decades. Its last edition with its present title was revised in 1941. It is written in clear, non-technical language and gives general understanding of the whole subject without including specific treatments. The sample questionnaires, charts, and tables have for the most part been brought up to date.

MARVIN H. M.

You and your heart a clinic for laymen on the heart and circulation. Foreword by Paul

DIEHL, HAROLD SHEELY
Healthful living. Third edition revised and enlarged. New York McGraw Hill Book

Personal Hygiene and First Aid

1561-1562

D White. New York Random House, 1950
306 p. Illus. 22 cm. \$3.00 1561

Contents: The miracle of health, by H. M. Marvin. Blood and muscle (the circulatory system and how it works) by H. M. Marvin. Internal adventure (short history of man's exploration of his circulatory system) by H. M. Marvin. The heart at birth (congenital defects and their treatment) by H. M. Marvin. Blood blocks of the heart (diseases of the coronary arteries) by H. M. Marvin. Hearts in trouble (diseases other than those of the coronary) by H. M. Marvin. Rheumatic fever (the nature and treatment of rheumatic heart disease) by T. Drechett Jones. High blood pressure (our commonest chronic complaint) by Irvin H. Page. Faulty supply lines (diseases of the blood vessels) by Irving S. Wright. The science of prevention (public health aspects of heart disease) by David D. Rotstein. Misapprehensions (some common fallacies about heart disease) by H. M. Marvin. Unanswered questions (the status and the need for research) by H. M. Marvin. Index.

Note. A book for lay readers written by five physicians active in the American Heart Association and the National Heart Institute. It leaves clarity the technical papers of the medical men were put into everyday English by a non-medical writer. The book is a reliable source of information for sufferers from heart disease and other non-physicians interested in the subject. Its purpose is to inform and to allay fear, rather than to encourage self-diagnosis and treatment.

SMILEY DEAN FRANKLIN AND ADRIAN
GORDON GOULD

Your health. New York The Macmillan
Company 1951 555 p. Illus. 22 cm. \$4.75
1562

Contents: Good health is not just good luck. Building resistance—avoiding infection. Immunity by vaccination. Avoiding stress and throat disorders. Science conquering tuberculosis. Fresh air indoors. Food and health. Preventing intestinal infections. Healthy teeth and gums. Preventing nervousness. Some facts about sleep, play and recreation. Keeping healthy mind. Keeping up appearance. Exercise—how much, how often? The hygiene of secretion. Combating heart disease. The hygiene of the genital system. Social hygiene problems. Safeguarding vision and hearing. Choosing your doctor and hospital. The prophylactic measures—yes or no? You and your health department. When you build that house. When that first baby comes. When your child enters school. If you work in a factory. If you live in the country. When you pass sixty. Sources of motion pictures on health. Glossary of technical terms. Index.

Note: (1913a) Although designed as text for college freshmen courses, this volume has value for the general reader as guide in developing sensible habits of living. The book is based on the author's *Textbook of Hygiene* (2nd ed., 1940) but the material has been so extensively revised and rewritten as to constitute new work. Less attention is now given to the structure and function of the various parts of the body and more emphasis placed on common health problems. Chapter bibliographies are included.

PSYCHOSOMATIC MEDICINE

ABRAMSON, HAROLD ALEXANDER, editor
Somatic and psychiatric treatment of
asthma. Baltimore The Williams & Wilkins
Company 1951 751 p illus. 24 cm. \$11.00
1563

Contents: Part I. Basic concepts: The physiology of respiration, by H. K. Hoff and C. G. Berneberger. Lung volume and air flow characteristics in asthma, by J. L. Wittenberger. Experimental asthma, by R. Kanner. The psychodynamics of respiration, by L. J. Suss and I. W. Lyons. Asthma allergy, by P. W. Whitteck. The fallacy of experimental asthma on the respiratory function, by R. Latham. Part II. General testing and treatment: Office treatment of bronchial asthma, by H. L. Rogers. The differential diagnosis of asthma, by J. Fennell. Differential diagnosis charts, by H. A. Abramson. Cough: A classification of diagnostic tests for asthmatics, by H. M. Finkeln. Part III. Mechanisms of induced asthma and their therapy: The theory of pollen asthma, by H. A. Abramson. Chemistry and standardization of pollen extracts, by E. Pernice. The chemical nature of dust allergens, by C. Rumpfenner. Cold and alcoholism, by J. R. Spoor. Specific nasal therapy, by G. E. Rockwell and R. M. Rockwell. Specific therapy in general, by R. Srinivas. Polymiosis with sensitive cross-reaction, by M. M. Finkeln. Part IV. Asthmatic therapy: Asthma in children, by R. Kanner. Treatment of asthma commencing in middle life, by M. M. Finkeln. Dietotherapy, by H. M. Dariusen. Interventions treatment of asthmatic asthmatics, by R. A. Brown. Antihistamine agents in the treatment of bronchial asthma, by K. A. Brown. Corticosteroids and adrenocorticotrophic hormones in bronchial asthma, by H. F. Collier. Inhalation of gases, by O. A. Kacelich. Aerial therapy of the lungs and bronchi, by H. A. Abramson. Experimental asthma in man with aerosols, by H. A. Abramson and others. Special techniques of aerial therapy for infants and children, by J. R. Miller. Respiratory allergy from the standpoint of sensitivity, by P. K. Hissel. Bronchospasm in bronchial asthma, by P. K. Hissel. Surgical treatment of bronchial asthma, by R. H. Orbach and J. H. Walker. Primary irritants and chemical warfare agents, by W. Fiedelmann. Part V. Psychotherapy: Psychodynamic pharmacology in the therapy of asthma, by H. A. Abramson. Material reactions in the treatment of bronchial asthma, by H. Miller and D. W. Rarick. Psychotherapy in bronchial asthma, by H. Rios and C. P. Weiss. Part VI. Special specialties: Therapy of asthma in Cuba and other countries of Latin America, by O. Llerenas de la Riva.

Note. This work represents planned efforts to coordinate the established knowledge of the etiotic bases of asthma with psychotherapeutic techniques. It may be used by specialists in asthma as a source of information about the psychotherapeutic agents and by psychiatrists as a source of information about the physiologic aspects. The reader of authors comprises specialists in both branches of the subject. The chapters are accompanied by extensive literature references.

ALEXANDER FRANZ

Psychosomatic medicine Its principles and applications With a chapter on the functions of the sexual apparatus and their disturbances by Therese Benedek. New York W W Norton & Company Inc., 1950 300 p illus 22 cm. \$4.50 \$564

Contents. Part one, General principles: Introduction. The role of modern psychiatry in the development of medicine. The influence of psychoanalysis upon the development of medicine. The contribution of Gestalt psychology, homeopathy and endocrinology. Characteristic hysteria, vegetative nervous, and psychogenic organic disturbances. Progress in clinical thought. Methodological considerations.

those concerning the psychosomatic approach. Fundamental principles of the psychosomatic approach. Part 2. Emotional factors in different diseases: Emotional factors in gastrointestinal disturbances. Emotional factors in respiratory disturbances. Emotional factors in cardiovascular disturbances. Emotional factors in skin diseases. Emotional factors in metabolic and endocrine disturbances. Emotional factors in the disturbances of the joints and skeletal muscles. The functions of the sexual apparatus and their disturbances. Therapy. Bibliography. Index of names. Subject index.

Note. The Director of the Chicago Laboratory for Psychoanalysis has in this book presented an interesting survey of the most concepts of psychoanalytic medicine and of their implications in medical practice. The book is written in non-technical style. It may be read without much difficulty by nonmedical general readers and by professional workers in fields related to medicine. Also its content is substantial enough to make it valuable to general practitioners of medicine in search of information on 240 references.

ASSOCIATION FOR RESEARCH IN NERVOUS
AND MENTAL DISEASES

Life stress and bodily disease. Proceedings of the Association December 2 and 3 1949 New York, N Y With 345 illustrations, 83 tables and 2 color plates Baltimore The Williams & Wilkins Company 1950 1135 p. Ills. (part col d) 24 cm. (Association for Research in Nervous and Mental Diseases. Research publications. Vol. xxxix. Editorial board Harold G. Wolff and others) \$15.00. 1565

[illegible]

of frontal lobe stimulation, by L. M. Dacey and others. Variations of gastric function during conscious and unconscious conflict states, by R. O. Margolin and others. Part viii, Life stress and diseases of the colon. Life attitudes, emotions, and chronic ulcerative colitis, by J. J. Grace. Constipation and diarrhea as reactions to life stress, by T. P. Alary and others. Part ix, Life stress and diseases of the stomach, joints and pericardial structures: Personality factors in osteoarthritis, by Henry Lohr and others. Part x, Life stress and cardiovascular disease: Possible critical areas involved in arterial hypertension, by W. P. Chapman and others. The relation of stress to clotting time, relative viscosity and certain other biophysical alterations of the blood in the normotensive and hypertensive subject, by R. A. Schatzler. Character structure in hypertensive persons, by M. W. Ackerman. An appraisal of factors that evoke and modify the hypertensive reaction pattern, by R. Wolf and R. M. Shepard. Part xi, Life stress and diseases of the skin. The pathogenesis of hives, by D. T. Graham. Life attitudes, emotions and atopic dermatitis, by J. G. Kasper and M. Rabin. Part xii, Life stress and mental disorders: Disturbances of bladder function associated with emotional stress, by L. R. Sirosh and others. Disturbances in sexual function during periods of stress, by W. H. Gantt. Life attitudes, emotions and gynecologic pain associated with coitus, by H. C. Taylor. Part xiii, A hereditary Life stress and lucky disease, by H. G. Wolff. Index.

Notes: A collection of the papers, together with transcripts of discussions, presented on the occasion indicated in the book's title. Altogether there are 49 papers contributed by 121 graduate scientists. As the titles of the papers indicate, "science has been interpreted liberally and papers are included on such topics as relations between stress and growth in children, relations between psychological conflict and neurovascular tension, etc. Many of the papers report the results of recent research carried out by the authors. The book is a primary contribution to the literature of psychosomatic medicine.

BELLAK, LEOPOLD editor

Psychology of physical illness psychiatry applied to medicine, surgery and the specialties. New York Grune & Stratton 1952 243 p. 24 cm. \$5 50 1566

Contents: Introduction, by L. Bellak. Psychiatric considerations in general practice, by M. Males. Psychiatry applied to internal medicine, by E. Hirschman. Psychiatric problems of pediatrics, by J. A. M. Maclean and A. Zuck. Psychiatric problems in general surgery, by V. E. Rosen. Psychiatric aspects of plastic surgery, by L. Hata. Psychiatric implications in gastroenterology and obstetrics, by E. Hase. Psychiatric aspects of diseases of the genitourinary system, by J. M. Balguy. Rheumatism, arthritis and psychiatry, by M. Geyssens and A. Kramet. Etc., nose and throat diseases and psychiatry, by A. Zuck. Psychiatric and psychosomatic aspects of neurological diseases, by A. Rosen. Psychiatric aspects of pediatric practice, by M. I. Levine. Psychiatric aspects of dermatology, by M. Racht. Psychiatric aspects of dentistry, by S. J. Kavan. The personality of the physician as a factor, by L. L. Altman. Index.

Notes: Introduction of medicine to such a way that the psychological aspects of illness will always be taken into account in diagnosis and treatment in the same sense of life work. The editor points out that "traditional separation of psyche and soma is out of date and states "the alert and informed doctor will use the talking of the medical history as an occasion for appraising not only the psychosomatic aspects of the onset of symptoms, chief complaints, and the like, but also for sticking taking of such emotional environments as already mentioned. Most of the chapters are devoted to discussions of psychological or psychiatric aspects of specific diseases of internal and surgical diseases. The book addressed to general medical practitioners and general surgeons rather than to psychiatrists or specialists in psychosomatic medicine. Fundamentally it is statement of "facts and an outline of the main aspects with literature references for those who wish to pursue particular phases further.

BENEDICK, THERESA

Psychosexual functions in women. New York The Ronald Press Company 1952 435 p. illus (part col'd) 24 cm. (Studies in psychosomatic medicine of The Institute for Psychoanalysis, Chicago Illinois. Vol. 2) \$10.00 1567

Contents: Introduction. General survey of the material. Vaginal-mucosa and basal body temperature (techniques of hormone evaluation). General aspects of the application of psychoanalytical method. Interpretation and prediction. A study of two cycles. Critical eval-

uation of the methods and the discrepancies. The menstrual cycle and the emotional cycle. Personality structure and the sexual cycle. Variations in sexual cycles. Conclusions and conclusions. The psychoanalytic implications of the primary and mother-child. Classification, developmental phases. The function of the sexual apparatus and their disturbances. Some psychophysiological problems of motherhood. Bibliography. Index of names. Index of subjects.

Notes: (1912a) A collection of studies based on psychoanalytic investigations of fifteen women of child-bearing age, carried out in conjunction with physiological examinations over a period of several years. The aim of the studies was to discover whether physiological functions, such as ovulation, which is usually determined by their sexual behavior, could be recognized in the emotions and behavior of particular group of emotionally unbalanced women. Although the work does not purport to be a comprehensive presentation of the psychology of women, the findings of the studies are basic information for psychiatrists, gynecologists, and general practitioners of medicine. The first seven chapters are reported from the National Research Council monograph of 1942, of which the author is the author. The author is the author. The added chapters include one giving brief comparison of the psychosomatic problems of men and women.

COBB STANLEY

Emotions and clinical medicine. With an introduction on semantics and definitions by John R. Reid. New York W W Norton & Company Inc., 1950 243 p. illus. 21 cm. \$3.50. 1568

Contents: Physiology: The anatomy of emotion. The hypothalamus. Cardiac and emotional excitation. Digestive, sensory and end behavior. Endocrinology and the autonomic nervous system. Classification of emotional reactions. Lesions in man associated with changes in emotional behavior. Clinical applications. The normal functions of the emotions and psychosomatic medicine. Autonomic nervous as psychosomatic problem. Patients in personality. The problem of specificity in psychosomatic reactions—"reactions of conflict" and "choice of the organ. Emotions and social psychology. Bibliography. Index.

Notes: An interpretive synthesis of recently gained knowledge pertaining to the relations among the emotions, certain areas in the brain, and endocrinology. The results of frontal laboratory for instance are concerned as well as the current knowledge of the functions of the pituitary. The book is written in semi-technical style and is suited to serious general readers and to professional workers in such fields as child study where fundamental knowledge of the bases of emotion is useful. The author is member of the faculty of Harvard Medical School.

CURRENT TRENDS IN THE RELATION OF PSYCHOLOGY TO MEDICINE, by Wayne Dennis and others. Pittsburgh University of Pittsburgh Press, 1950. 189 p. 22 cm. \$4.00 1569

Contents: Introduction of psychology and medicine, by W. Dennis. Psychology and public health, by R. H. Felt. Psychology in medical education, by C. Jacobsen. Experimental psychopathology, by R. A. Felt. Psychology in neurological research, by Y. D. Kofsky. Psychology in relation to psychiatry, by P. K. Heston. Psychology and personality, by M. W. Kofsky. The relation between medicine and psychology in England, by H. J. Eysenck.

Notes: Similar in plan to the other volumes in this medical series, this book contains lectures that were originally delivered at the University of Pittsburgh under the auspices of the Department of Psychology. Each author has devoted himself to the current status and current trends in the area assigned in the title of his lecture. However some of the authors have also sketched in the historical background. Literature references are included for most of the lectures. The volume is useful and authoritative summary for advanced college students studying psychology and for college graduates with professional interests in the topics.

DORCUS ROY MELVIN AND G WILSON SHAEFFER

Textbook of abnormal psychology Fourth edition. Baltimore The Williams & Wilkins Company 1950 717 p. illus. 24 cm. \$5.00 1570

Contents: The field and scope of abnormal psychology. Disorders. Major disorders. Brief description disorders (topographical)

and cytoarchitectural relationships) Disorders of sensation and sensory theories of disorders of the central functions. Dreaming, feelings, and emotions. Psychosomatic disorders. Sleep, dreams, and hypnosis. Classification and history of mental diseases. Organic psychoses. Functional psychoses. Psychoneuroses. Mental deficiency and psychopathic personality. Physical and chemical therapies. Psychotherapy. Bibliography. Glossary. Author Index. Subject Index.

Notes: (1937) A standard work widely used as a text for medical students and advanced students of psychology. The level of treatment assumes considerable preparation in basic psychology on the part of the reader. In this edition there are three newly added chapters and important revisions have been made in numerous sections carried over from the preceding edition. The extensive and useful bibliography now includes 1200 citations, of which—according to the authors—approximately 230 are new.

HOLMES, THOMAS H., AND OTHERS

The nose: an experimental study of reactions within the nose in human subjects during varying life experiences. By Thomas H. Holmes, Helen Goodell, Stewart Wolf and Harold G. Wolf. With a foreword by Warfield T. Longcope. Springfield, Illinois: Charles C. Thomas, 1950. 154 p. illus. 24 cm. \$4.50. 1571

Contents: Review of nasal physiology: objective and method of present study. Range of nasal functions in normal subjects. Alterations in nasal function following specific threats to respiratory apparatus. Alterations in nasal function following general threats to bodily integrity. Relations of nasal changes to bodily disturbances involving the eyes and deeper respiratory structures. Personality and background of an intensively studied subject. Alterations in nasal function occurring as part of the organism's pattern of adjustment to his environment. Temporal correlation of disturbances in relations with nasal disturbances in one hundred patients with chronic or recurrent nasal disease. The relation of nasal to neural functions. The relation of nasal to psychic functions. Mechanisms involved in disorders of the nasal and paranasal spaces. Pulse from the nasal and paranasal structures—the mechanism of "stomach headache." Considerations and summary. Glossary. Index.

Notes: A technical report of a series of planned observations of the changes in color and other properties of the nasal mucosa and of alterations in nasal and respiratory functions in response to emotional stimuli. The observational methods are described and the results of particular experiments and groups of experiments are summarized. A variety of detailed case histories are included. The presentation is technical and is addressed chiefly to medical graduates. The work is of particular interest to psychosomatic medicine.

KALINOWSKY, LOTHAR B. AND PAUL H. HOCH

Shock treatments, psychosurgery and other somatic treatments in psychiatry. Second revised and enlarged edition. Foreword by Nolan D. C. Lewis. New York: Grune & Stratton, 1952. 396 p. 24 cm. \$8.75. 1572

Contents: Historical development. Insulin shock treatment. The convulsive therapies. Combined insulin-convulsive treatment. Psychosurgery. Other somatic treatments. Theoretical considerations. Bibliography. Index.

Notes: (1951) A survey of techniques and experience up to about mid-year 1951. It is based on the literature contributed to the authors' experience and the text is keyed to a 33-page bibliography. It is addressed to psychiatrists and to neurologists and neurosurgeons, and its purpose is to aid in the appraisal of the value of these relatively new therapies. Much important material has been added in this edition, especially in the chapter on psychosurgery.

MASSACHUSETTS GENERAL HOSPITAL. PSYCHIATRIC SERVICE

Case histories in psychosomatic medicine. By the staff of the Psychiatric Service, Massachusetts General Hospital, Boston. Edited by Henry H. W. Miles, Stanley Cobb and Harley C. Shands. New York: W. W. Norton

& Company Inc., 1952. 306 p. illus. 22 cm. \$4.50. 1573

Notes: Twenty-one cases which illustrate considerable range of psychosomatic diseases are discussed in this book. They illustrate not only varieties and manifestations of psychosomatic medicine but also show expert techniques in diagnosing and treating such cases. Participants in the discussions are for the most part physicians associated with the Massachusetts General Hospital and faculty members of Harvard Medical School. Literature references are included for the most of the papers.

OSBORN, LESLIE A.

Psychiatry and medicine: an introduction to personalized medicine. New York: McGraw Hill Book Company Inc., 1952. 494 p. 24 cm. \$7.50. 1574

Contents: (abridged) Part one, Theoretical considerations: Section one, Nature of the subject. Attitudes in illness. Origin and nature of symptoms. Adaptation and adjustment. Internal medicine and psychiatry. Organic mental reactions. Section two, Development and relationship. Developmental aspects. Mating and parenthood. Mating and independence. Individuality. Friendship and support. Section three, Social living: Self-expression and freedom. Frustration and its effects. Heredity and its implications. Part two, Practical applications: Section one, Types of reaction to life's experience: Descriptive and dynamic psychiatry. Degree of reaction. Kind of reaction. Section two, The clinical study: Observing and interviewing. The organic investigation. Psychological studies. Steps in correlation. Section three, Therapy: Psychotherapy. Changes of environment. Psychosomatic considerations. Relatives and social control. Symptomatic treatment. Helping children. Part three, Mental hygiene. Preventive medicine and psychiatry. Appendix. Index.

Notes: Integration of psychiatry and general medical practice is the chief theme of this book, which was written for use in and by undergraduate courses in medical schools. Its previous acquaintance with psychiatric concepts is modest, and authors deal with the subject in a heavily simplified, tactical terminology of psychiatry although its authors are of R. after defining it, they plan to use the common language in such phrases as "Each person has psychic thoughts, feelings, ideas, and understood meanings that he brings to himself." The author who is Professor of Psychiatry and Chief Director of the Wisconsin Psychiatric Institute in the Medical School of the University of Wisconsin, has had extensive experience in both the general practice of medicine and in psychiatry.

SULLIVAN, ALBERT JOSEPH AND THOMAS E. MCKELL

Personality in peptic ulcer. Springfield, Illinois: Charles C. Thomas, 1950. 100 p. illus. 22 cm. \$3.00. 1575

Contents: Emotional factors in peptic ulcer. Psychologic foundation from concepts in education. Theory of multiple etiology. Clinical classification of cases. The ulcer personality. The craving for sympathy. The precipitating situation. Later etiology of various etiologic factors. Observations and predictions. Treatment. Report of cases. References. Index.

Notes: A short but valuable study of peptic ulcer from the psychosomatic viewpoint. It is based on clinical observation of over 1000 cases and detailed analyses of over two hundred. On this basis the authors divide ulcer patients into four groups: (A) the ulcer personality; (B) definitely psychosomatic cases; (C) typical ulcer personality; (D) definitely psychosomatic cases. The typical cases due to striking external precipitating factors. The typical cases with no personality or situational psychic factors. The typical cases with personality in described in more detail under three subgroups: drive, secondary emotional responses, and others, respectively. Several adjustment, determination, age, sex, race, personality. Eighteen cases typical of the four groups are described in some detail.

WEISS, EDWARD AND O. SPURGEON ENGLISH

Psychosomatic medicine: the clinical application of psychopathology to general medical problems. Second edition. Philadelphia: W. B. Saunders Company, 1949. 803 p. illus. 24 cm. \$10.00. 1576

Contents: Part I, General aspects of psychosomatic medicine: Psychosomatic medicine. Personality development and psychopathology. Psychosomatic diagnosis. Treatment—general principles of psychotherapy. Treatment—"normal" problems in psychotherapy. Treatment—special psychotherapeutic procedures. Training in psychosomatic medicine. Part II, Special applications to general medicine and the specialties: The cardiovascular system. The cardiovascular system—emotional factors in organic heart disease. The cardiovascular system—essential hypertension. The gastrointestinal system. Endocrine system and metabolism. The genito-urinary system and the sexual function. The respiratory system. The central nervous system. Ear and eye. Skin disorders and allergies. Destructive arthritis and orthopedic problems. Appendix. References. Selected references. Index.

Note: (1917) A useful treatise based on extensive clinical experience and written in terms of average medical practice. Its purpose is to help graduate medical practitioners who are not specialists in psychosomatics and psychopathology to differentiate between symptoms of psychic origin and those of organic etiology; to pick out the emotional factors complicating physical disease; to uncover the underlying causes of those emotional disturbances, and to facilitate therapy. The first-named author is professor of clinical medicine and his associate is professor of psychiatry. The first edition appeared in 1943. The original text was rearranged and widely rewritten for this edition. Also, much material, derived partly from medical experience during World War and partly from additional civilian practice, has been added. The book is suitable for use as survey and orientation guide for graduate physicians and as text in courses in psychosomatic medicine offered to advanced medical college students.

YACORZYNSKI, GEORGE K.

Medical psychology a basis for psychiatry and clinical psychology New York The Ronald Press Company, 1951 535 p. illus. 24 cm. \$6 00 1576a

Contents: Introduction. Part I, Basic psychological principles: Biological needs. Emotions. Learning. Perception. Memory. Adjustment to conflict. Part II, Inheritance and maturation. Introduction to genetic psychology. Inheritance of behavioral responses. Maturation related to physical and physiological factors. Maturation of more complex functions. Part III, Integration—structure and structuralization of personality; Introduction to personality. The biological substratum of personality. Behavioral manifestations of personality. The structuralization of personality. A partial list of some of the more recent texts in psychiatry and clinical and abnormal psychology. Index of names. Index of subjects.

Note: A succinct introductory presentation of the generally accepted principles of human behavior, written for medical college students who are preparing for further study of psychiatry and clinical psychology. The style is more technical and the level of treatment more advanced than would be appropriate in text intended for general college students. Also, there is more emphasis on the underlying physiology. References to papers in which important experiments and clinical studies have been reported are carefully given. The author is Associate Professor of Nervous and Mental Diseases in the Medical School of Northwestern University.

PSYCHIATRY

ALEXANDER, FRANZ, AND HELEN ROSS, editors

Dynamic psychiatry Chicago The University of Chicago Press 1952 578 p. 23 cm. (The University of Chicago Committee on Publications in Biology and Medicine) \$10.00 1577

Contents. Part I. Concepts of dynamic psychiatry: Development of the fundamental concepts of psychosomatics, by F. Alexander. Disease and relational behavior by T. M. French. History of medical psychological concepts, by E. Weiss. Personality development, by T. Rensfeldt. Part II. Clinical psychosomatics: Behavior disorders and pervenience, by J. Alexander and L. R. Dogra. Acute somatic diseases, by L. Arel and J. W. Lyons. Emotional disturbances in children, by M. V. Gurevich. Contribution of psychoanalysis to the study of organic cerebral disorders, by E. W. psychosomatics. Psychodynamic approach to the study of psychosis, by I. C. White. Combination of psychosomatics and the study of the psychoses, by H. W. Brouha. Principles of psychiatric treatment, by M. Looze. Part III. Indications of psychosomatics on different fields: The psychosomatic approach to medicine, by F. Alexander and T. R. Jones. Some relationships between social epidemiology and psychiatry by M. Mand. Clinical psychology by D. Shokov. Animal psychosomatics in its relation to psychiatry by D. M. Levy. A review of the indications of psychosomatics on surgery, by H. W. Brouha. Index

Note. By dynamic psychiatry the editors and authors of this book designate contemporary psychiatry. The scope of which has been enlarged by the impact of the theories and techniques of psychoanalysis. The concept of "the state of dynamic psychiatry" is equivalent to the limited existence of psychoanalysis as a theory and analysis, which has been transformed into a theory of psychiatry as a method of psychiatry. As a body of theory it is becoming recognized as basic science (basic to psychiatry and to the social sciences). The authors chapters are original papers. The authors include staff members of the Institute for Psychoanalysis, Chicago, and prominent teachers in American medical schools. The work is survey of scientists active in psychiatry and others with professional interest in the field. Literature references are included.

AMERICAN PSYCHOPATHOLOGICAL ASSOCIATION

Relation of psychological tests to psychi-
 atry The proceedings of the fortieth annual
 meeting of the American Psychopathological
 Association held in New York City June
 1950 Edited by Paul H. Hoch and Joseph
 Zubin New York Grune & Stratton 1952
 301 p illus. 22 cm. \$5.50 1578

Contents (continued). Part 2. Historical basis for psychological tests: What is tested by psychological tests? by R. W. White. Development of clinical tests in psychopathology by L. S. Ballieu. Theoretical basis of psychometric tests, by L. F. Shaffer Part 3. Diagnostic use of psychological tests. An experimental criterion for the propagation of the status of schizophrenics after a three-year interval based on Korschach data, by Z. A. Piotrowski and N. D. C. Lewis. The diagnostic use of psychological tests from the psychiatrist's standpoint, by O. Dethlefsen and C. A. Kneer. Personality and intelligence—aptitude I: projective and psychometric techniques, by R. S. Tenenker. Part 4. Presidential address: The philosophy of scientific comparison, by W. S. Teichner. Part 5. Influence of consensus factors on psychological test persons. The collectivity of abstract test persons: a comparison of the results of two experiments, by J. A. M. M. de Vries and D. H. F. van der Ende. The prediction of school failure in clinical psychometry by A. L. Kelly. The emotional factor (reaction) as an aid in the study of the psychiatric patient, by W. H. Gantt. Some theoretical and practical aspects of the diagnosis of early and latent schizophrenia by means of psychological testing, by M. S.

Gurwits and J. H. A. Miller. Part 1. Influence of the psychic and psychological test performance: Research studies in constant being performed, by L. Alexander and A. F. Az. The use of aversive therapy in depressive electroconvulsive treatment, by R. C. Glantz, Jr., and others. (Review) - the realization of an infant's fantasy with special reference to testing methods, by F. Dember. The influence of psychological emotions on psychological test performance, by L. White and T. A. C. Reagin. Index.

Note. A collection of original papers written for delivery to the association mentioned in the book's title. Together they represent wide range of experience with the use of tests in psychology and wide range of information about the maintenance and capability of such tests. The book is of interest not only to psychologists but also to psychologists concerned with the development of tests. Each part of the book except the third is accompanied by one or two discussion essays which are not listed in the above table of contents.

BELLAK LEOPOLD

Manic-depressive psychosis and allied conditions With Blaise Pasquarelli, Ernest Parkes Sonya Sorel Bellak and the collaboration of Sydell Braverman. Foreword by Alfred Overholser New York Grune & Stratton. 1952 306 p. illus. 24 cm. \$9.75 1579

Contents: Introduction. Part 1. Manic-depressive psychosis. Definition and description. Vital statistics. Etiology. Prognosis. Studies. Psychopathologic studies. Diagnosis and treatment. Manic-depressive psychosis in childhood. Treatment. Complications and sequelae. Prognosis. Prevention. Part 2. Allied conditions: Psychotic reactions to pregnancy. Irregularities of menses. Eclampsia. Convulsions. Disorders of old age. Suicide. Bibliography. Index.

Note. A digest of the world literature. The various chapters consist essentially of abstracts which are keyed to the classified bibliography by mention of authors' names. The coverage is comprehensive and the presentation is non-critical. The index is thoroughly checked for subject approach, but it does not include the names of authors of cited sources.

BENDER LAURETTA

ENDER LAURETTA
Child psychiatric techniques diagnostic
and therapeutic approach to normal and ab-
normal development through patterned ex-
pressive, and group behavior Springfield, Il-
linois Charles C Thomas 1952 335 p. illus.
(part col d) 26 cm. \$8.50. 1590

[illegible]

Note: A book based largely on observations over a period of fifteen years in the children's ward of the Psychiatric Division of Bellevue Hospital in New York City. It does not represent the efforts of a single author as the (sale) pages appears to indicate but is composed of papers written by Paul Schilder, Lauretta Bender, and others. The use of art in both diagnosis and therapy is stressed. Many of the movies have been prohibited elsewhere, but in most instances they

York Basic Books, Inc., 1952 375 p. 24 cm.
\$6 00 1587

Contents. Introduction. Part I. On ego psychology: Some variations, in ego feeling. Narcissism in the structure of the ego. Ego feeling in dreams. The awakening of the ego in dreams. A dream under general anesthesia. Part II. On the treatment of psychotics: Psychomorphology of psychosis. Principles of psychotherapy in latent schizophrenia. Mental hygiene of the ego in schizophrenia. Freud's certainty: Ego psychological aspect of schizophrenia. The ego in schizophrenia. Depressive reactions. Ego response to pain. Menstrual psychosis. Part III. Narcissism. The ego as subject and object in narcissism. On the distinction between healthy and pathological narcissism. Writings of Paul Federn. Index.

Note: The author of the papers in this book was among the earliest followers of Sigmund Freud and in 1924 when Freud retired he succeeded to Freud's practice in Vienna. He came to the United States of America in 1938 and practiced and taught here until his death in May 1950. Some of the papers were written in English and are here printed for the first time. Notable in this group is a series of three lectures on schizophrenia originally delivered in June, 1949 at Winter's Veterans Hospital in Tupelo, Kansas.

FISHER, VIVIAN ELRA

The meaning and practice of psychotherapy New York The Macmillan Company, 1950. 411 p. 22 cm. \$3 00 1588

Contents. Part I. A general orientation. Concerning approach and procedure. Part II. Some psychotic and closely related disorders. Early schizophrenic reactions. Manic-depressive reactions. Early paranoic trends. Latent/latent-manic/latent reactions. Psycho-panic reactions. Hypochondriacal reactions. Part III. Psycho-neurotic reactions. Neurotic reactions. Neurotic anxiety reactions. Some anxiety-neurotic reactions. Anxiety hysteria. Simple phobias. Obsessive-compulsive reactions. Conversion hysteria. Mental regression. Reactive depression. Part IV. Some minor/active psychoses (industrial and reactions). Schizoid tendencies. Compulsive drinking. Symptomatic features of inferiority. Homosexual tendencies. Psychical impotence. Sexual brightness. Mental disorder. Selected readings. Glossary. Index.

Note: The special value of this book lies in its detailed accounts of psychotherapeutic procedure. The author has drawn from his twenty years of practice cases which are typical of the various classes of psychoses and psychoneurotic disorders and has shown how he treated them and what the outcome of the treatment was. The cases are fair cross-sections of what psychotherapist encounters in practice and they include even such everyday problems as marital discord. Although the author's viewpoint is essentially Freudian, his therapeutic methods are also tempered with common sense. The book is particularly of interest not only to psychiatrists and to medical graduates preparing for this specialty but also to general practitioners who encounter neurotic patients in their general practice.

FROMM REICHEMANN FRIDA

Principles of intensive psychotherapy Chicago The University of Chicago Press, 1950. 246 p. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine) \$3 75 1589

Contents: Part I. The psychiatrist-patient and professional requirements: Insights into the emotional aspects of the doctor-patient relationship. The psychiatrist part in the doctor-patient relationship. The psychiatrist's attitude toward cultural and ethical values in its relationship to the goals of psychotherapy. Considerations of the psychiatrist in the establishment of the treatment situation. Part II. The psychotherapeutic process—the patient and the therapist: The initial interview. Introductory remarks on the psychotherapeutic procedure. Associations, marginal thoughts, physical sensations, and their usage in psychotherapy. Interpretation and its application. How to begin and how to terminate psychotherapeutic interview. Terminology of treatment. Part III. Approach to intensive psychotherapy: The attitude of the psychiatrist toward interview events in the lives of the patient and of the therapist. Contacts with relatives. References list. Index.

Note: A principal theme in this book is the importance in psychotherapy of the interpersonal relationship between psychiatrist and patient. After exploring this phase of psychotherapy in the first part, the author then turns to more specific aspects of interviewing and finally she discusses the importance of the psychiatrist's attitude towards such disturbing events in the life of the patient as the death

of close relatives, divorce, and severe illness. Also, she discusses briefly the effects of such events on the psychotherapeutic process, when they occur not to the patient but to the psychiatrist. The book is addressed primarily to practicing psychiatrists.

GREENBERG, HAROLD A., AND OTHERS

Child psychiatry in the community: a primer for teachers, nurses, and others who care for children. In collaboration with Julian H. Pathman, Helen A. Sutton, and Marjorie M. Browne. New York G P Putnam's Sons, 1950 296 p. illus. 21 cm. \$3.50. 1590

Contents: Part I. The child: The child's behavior movement in the United States. Personality development. The performance of behavior problems. Symptoms—diagnosis. Prognosis. Treatment in child guidance clinic. Collaborative therapy. Part II. The child team: The psychiatrist. The psychologist. The social worker. Part III. The child and the community: The psychiatrist's role as consultant in children's institutions. Emotional problems in a hospital-based for crippled children. Child guidance and the school. Child guidance and the teacher. Juvenile delinquency. A look to the future. Appendix. Glossary. Selected readings. Index.

Note: The methods and experience of the Institute for Juvenile Research in Chicago were the basis for the greater part of the content of this introductory authoritative work. However, broad view of child psychiatry from the community aspect is presented. Current diagnostic and therapeutic techniques that are applicable to work in community clinics and similar organizations are discussed rather fully although authoritatively. The author is Senior Staff Psychiatrist of the Institute for Juvenile Research.

HINCKLEY ROBERT GEORGE, AND LYDIA HERMANN

Group treatment in psychotherapy: a report of experience. Minneapolis University of Minnesota Press, 1951 136 p. 24 cm. \$3.00 1591

Contents: The origins and aims of this study. The function of the group. The function of the therapist. The role of the patient. Dynamics of group movement. Functional mechanism in the group. Highlights from group. Appendix—One book. Index.

Note: A study of group therapy in practice. It is based on the authors' experience in the Minnesota Medical Hygiene Clinic of the University of Minnesota. The presentation is designed to illustrate practical techniques in group therapy and to indicate how the authors' own group therapy of this type of treatment. The text is a collection of notes and transcripts of the conversations of groups under study. The authors conclude that well planned and well supervised group therapy is a very valuable method and tool. It offers broad individual treatment, but accurately and effectively employed it can be well used for many purposes as the complete work of treatment. The first named author is Associate Professor of Psychiatry and the second named is Associate Professor of Social Work in the University of Minnesota.

KLEIN, DAVID BALLIN

Abnormal psychology A revision of Edmund S. Conklin's *Principles of abnormal psychology* New York Henry Holt and Company 1951 589 p. illus. 24 cm. \$4.75. 1592

Contents: Abnormality—perceptions and emotions. Abnormality of sense orientation. The self and its dynamics. Abnormalities of speech and perception. Abnormalities of memory and speech. Pathological and functional abnormalities. The abnormality of emotion. Abnormal and abnormal. Hypnotism and abnormal psychology. Psychomorphology. Abnormalities of perception. Structural psychotic disorders. A review of the psychology of therapy—psychomorphology and allied approaches—psychoanalytic, experimental approaches—physiological and surgical approaches. Index.

Note: (1943) A substantial textbook in which abnormal psychology is treated as a branch of psychology and not as a discipline exclusively concerned with mental disease. It is addressed primarily to students who are preparing for careers in clinical psychology and is intended as an introduction for those who have acquired

sound knowledge of basic psychology. The reader is offered an inclusive view of the field including accounts of the contributions of Freud and other major figures; descriptions of abnormalities of vision, memory, intelligence, etc.; descriptions of the child nervous and psychiatric disorders; and critical discussion of therapeutic methods. Although based on Combs's text as indicated in the preface, the book is essentially new work. The author is Professor of Psychology on the faculty of the University of Southern California.

LANDIS CARNEY AND M MARJORIE BOLLES

Textbook of abnormal psychology. Revised edition. New York. The Macmillan Company 1950 634 p. illus. 24 cm. \$5.25 1593

Contents (abridged). Section one, Orientation: Descriptions, terminology and orientation. Psychopathology. Section two, Varieties of abnormality: Physical illness. Physical handicap. Rhythmic and dissociated personality. Anxiety, compulsive and reactive neuroses. Traumatic neuroses. Manic-depressive psychosis. Dementia praecox-schizophrenia. Involutional melancholia and paranoia. Old age and senile psychosis. Organic disorders of the brain. General paroxysms. Alcoholism and alcoholic mental illness. Epilepsy. Mental deficiency. Psychopathic personality. Section three, Experimental: Heredity. Culture and environment. Development. The tests. Section four, Psychopathology: Disorders of sensation, perception and action. Disordered emotion. Importance of intellect. Arousal and aphasia. Disorders of will. Section five, Diagnosis and therapy: Psychoanalysis. Psychotherapy. Educational guidance and counseling. Mental hygiene. Glossary. Index.

Note: (1944*) An introductory text that is designed not only for students who are specializing in psychology but also for those studying in such fields as education and sociology. It provides an inclusive view of the field but considerably more space is given to describing and explaining the various types of psychological deviations than is given to diagnosis and therapy. The authors have not favored the notion of any one school but have selected from the various schools what they believe to be the most valid principles. The first edition appeared in 1944. Much revision and re-arrangement is apparent in this edition. Changes have been made in most of the chapters and in some of them, for instance that on alcoholism, they are extensive. Recent literature has been added to the chapter bibliography.

LEWIN BERTRAM DAVID

The psychoanalysis of elation. New York W W Norton & Company Inc., 1950. 200 p. 21 cm. \$3.50. 1594

Contents: Introduction—a psychoanalytic approach to elation. Library survey of depression and elation. Dream, other defense mechanisms, and the analytic process of cure. Mania and sleep. Additions to the theory of oral eroticism. The oral triad in the elation. Elation and the sense of reality. Bibliography. Index.

Note: A study of elation or "manicological hypomania." It is written in the terminology of psychoanalysis and is addressed primarily to specialists in this field. The bibliography is comprehensive.

LOWREY, LAWSON GENTLEY

Psychiatry for social workers. Second edition. New York Columbia University Press, 1950. 385 p. 22 cm. \$4.50. 1595

Contents: Introduction. The data of psychiatry. Specific etiological factors. Clinical contributions of symptoms. Purchase of organic origin. Purchase of toxic origin. Psychodynamic and functional disorders. Cyclothymic (manic depressive) reactions. Schizophrenia (dementia praecox). Paranoia and paranoid conditions. The curative disorders. Mental deficiency. The nervous (psychomotor) psychopathic personality. Behavior and its disorders. Mental disorders in the young. Reactive behavior disorders. Problems of rejection and violence. The social worker and treatment. Selected reading list. Index.

Note: (1951*) An authoritative presentation of psychiatry and abnormal psychology written from the viewpoint of professional social workers. Psychodynamic concepts and techniques are not discussed in detail. Instead, the book presents the background knowledge and the clinical knowledge that will be useful to the social worker in her contacts with disturbed personalities. This edition represents considerable revision and expansion of the original edition. The final chapter is new and sections of several other chapters are new or revised. Statistical data and the bibliography have been brought up to date.

MAIER, NORMAN RAYMOND FREDERICK

Frustration: the study of behavior without a goal. New York McGraw Hill Book Company Inc., 1949 264 p. illus. 23 cm. (McGraw Hill publications in psychology, John F. Dashiell, consulting editor) \$4.00. 1596

Contents: Part one, Experimental and theoretical considerations: Introduction. Experimental evidence of abnormal behavior. Frustration. The characteristics of frustration-induced behavior. Theoretical implications. Part two, Implications and applications of the theory of frustration: Introduction. Comparison of motivated and frustration-induced behavior problems in children. The influence of reward and punishment on motivation and frustration. Counseling and therapy. Bibliography. Index.

Note: A monograph regarding an experimental program of research on frustration conducted in the author's laboratory at the University of Michigan over a period of ten years and drawing certain conclusions therefrom leading toward theory of frustration. The reported studies largely utilized sub-human subjects (chickadees) but some of the conclusions were checked by comparable experiments on human subjects. The work is of interest to psychologists concerned with abnormal behavior.

MASLOW ABRAHAM HAROLD, AND BELA MITTELMANN

Principles of abnormal psychology: the dynamics of psychic illness. Revised edition. New York Harper & Brothers 1951 665 p. 24 cm. (Under the editorship of Gardner Murphy) \$5.00 1597

Contents (abridged). Part I, Introductory concepts: The meaning of "abnormal" ("normal") and of "disease" ("abnormal"). Psychodynamics—motivation, emotion, experimental neurosis. Part II, Psychodynamic processes: Descriptions of psychological processes—conflict, projection, and its effects. Disturbances of self-identity. Contact with danger—defense, mobilization, defense reactions, etc. Part III, The etiology of psychopathology: Geographic factors. Individual psychodynamic factors. Group psychodynamic factors. Part IV, Therapy: Aims and nature of psychotherapy. Techniques of psychotherapy in adults. Regression and hypnosis. Psychoanalytic therapy. Psychotherapy in children and adolescents. Remedial treatment. Part V, Syndromes in infancy, childhood, and adolescence. Part VI, Syndromes in adolescence: Character disorders. Psychopathic personality. Reactions to shock, stress, or bodily injury (traumatic neurosis). Reactions to social demands which professionals. Reactions in which disturbed states of consciousness and of memory predominate. Reactions in which bodily complaints predominate. Reactions in which alienation and drug addiction predominate. Reactions to conditions of war. Manic depressive reactions. Schizophrenic reactions. Organic (dementia and hysteria) Psychotic reactions. Part VII, Syndromes in old age. Glossary. Appendix: Test procedures—projective methods of assessment. The significance of the problems of mental disease—statistical data. Bibliography. Author Index. Subject Index.

Note: A successful textbook which has been widely read since the publication of the first edition in 1941. The information presented in it has been drawn from several fields of science including not only psychology but also anthropology and sociology. Most of it has been gathered from the literature, but the authors' own observations are included too. Their contribution in integrating the material so as to form a coherent survey of abnormal psychology was substantial. They have added information on psychological disturbances in the young and the aged, on the influence of war, on patients, and on some methods of treatment. Other parts of the book have been brought up to date. In addition to the bibliography of 1951 there are extended reading lists at the end of each chapter.

MAY ROLLO

The meaning of anxiety. New York The Ronald Press Company 1950 376 p. 22 cm. \$5.00. 1598

Contents (abridged). Part I, Modern interpretations of anxiety: Philosophical processes—sources. Origins of anxiety. Anxiety interpreted biologically. Anxiety interpreted psychologically. Anxiety interpreted culturally. Summary and synthesis of theories of anxiety. Part II, Clinical analysis of anxiety: Case studies demonstrating anxiety. Appendix: Anxiety check-lists. Bibliography. Index of names. Index of subjects.

by M. Spiegel-Holm, Radiology of the skull and central nervous system, by R. E. Young and R. L. Scales, III, Neurosurgery: Peripheral nerve surgery by R. Woodhall, Surgery of the spinal cord and column, by M. Scott, Cerebral trauma and traumatic lesions of the central nervous system, by H. T. Wyck, Brain tumors, by L. M. Davidoff and K. H. Peirce, The vascular system, by A. E. Walker and J. D. McQuinn, Psychosurgery by W. Freeman and J. W. Watts, *Psychiatry: Clinical psychiatry* by A. Klum, Genetics in psychiatry and psychology by T. Spence and R. Hargrave, Mental hygiene, by H. Fried, Forensic psychiatry by W. Overholser, Child psychiatry, by R. B. Langley, Child psychiatry by R. D. Robinson and S. Dubo, The adolescent, by J. H. Maccubbin and others, Psychosomatic medicine, by R. W. Wines and others, Psychosomatics, by R. L. Frank and others, Projective methods, by L. Bickel and D. Kupper, Group psychotherapy by R. E. Klerman and others, Shock therapy, by P. H. Wilson and L. Adler, Psychiatric nursing and occupational therapy by A. R. Bassett and R. Kople, Rehabilitation, by M. Marks and L. R. Gerson, Index.

Note. (1401) Each chapter of these volumes is essentially descriptive literature drawn from the work of leading authorities on a selective bibliography. The index is addressed to graduate practitioners and to all who desire to keep abreast of the latest developments of the current literature and to select for further reading their articles of particular interest. The successive volumes in the series are organized on the same pattern. Section titles and chapter titles vary little from one volume to the next and the editor and publisher also at an average size of 400 pages. The actual content of each chapter is of course different as each date is based on the year's periodical literature.

PUMPIAN MINDLIN E, editor

Psychoanalysis as science the Hixon Lectures on the scientific status of psychoanalysis. Stanford, California: Stanford University Press 1952 74 p. 24 cm. \$4.25 1605

Contents: Empirical approaches to psychoanalysis, by R. E. Hilder, Psychodynamics, Psychotherapy: Problems and techniques of psychoanalytic validation and progress, by L. S. Kubler, Introduction, Fundamental propositions of psychoanalysis: The position of psychoanalysis in relation to the biological and social sciences, by E. Pumpian Mindlin, References, Index.

Note: A collection of lectures which were delivered first at the California Institute of Technology. The authors together describe the content of psychoanalysis, critically evaluate it and discuss certain psychoanalytic techniques and interpretations. The style of presentation is most interesting to non-psychiatrists. The book is valuable also for educated readers who desire an authoritative point of view of contemporary psychoanalysis.

RUESCH JURGEN and GREGORY BATESON
Communication, the social matrix of psychiatry New York: W W Norton & Company Inc., 1951 314 p. illus. 22 cm. \$4.50 1606

Contents: Values, communication, and culture. Communication: known relations. Communication and mental illness. Communication and American values. American perspectives. Communication and the system of checks and balances. Information and collaboration. Conventions of communication. Psychiatric thinking. The convergence of science and psychiatry. Individual, group, and culture. References, Index.

Note: In this book, authored by a psychiatrist and by an authority on cultural anthropology, the society which presses upon every individual peace and the manner (communication) by which the human mind is studied from the standpoint of their effects upon psychiatric theory and technique. The authors state, "While, in the past, theories of personality were concerned with one single individual, modern psychiatrists have come to the realization that it is necessary to see the individual in the context of social situation. The authors also pay attention to the effects of society upon psychiatrists and especially upon contemporary psychiatric thinking. The book is addressed primarily to psychiatrists and secondarily to sociologists.

SARASON SEYMOUR H

Psychological problems in mental deficiency New York: Harper & Brothers, 1949 366 p. illus. 22 cm. (Under the editorship of Gardner Murphy) \$5 00 1607

Contents: Origins of mental deficiency. Problems in classification. Problems in the diagnosis of brain injury. Problems in test interpretation. Garden-variety mental deficiency. Cultural factors in the etiology of garden-variety deficiency. Cerebral palsy. Other forms of mental deficiency. Projective techniques. Psychotherapy. Bibliography. Author index. Subject index.

Note: A critical study of possibilities and applications of psychological and psychiatric theories and techniques in the diagnosis and therapy of mental deficiency. The author states, "The book is evidence of my own belief that the psychological problems in mental deficiency are as intriguing, puzzling and promising as those found in any other clinical group." It is based largely on the literature including the author's own writings. The bibliography contains 319 citations. Since the names of the authors of the cited papers are assembled in the author index, the book can be used also as a guide to the literature of this specialty. The author is Associate Professor of Psychology at Yale University.

SAUL, LEON JOSEPH

Bases of human behavior: a biologic approach to psychiatry Philadelphia: J B Lippincott Company 1951 150 p. 24 cm. \$4.00. 1608

Contents: Part one, The power of the emotional forces—psychodynamics as basic science. The place, the scope and the goals of dynamic psychiatry. Part two, Motivation and its effects. Emotional forces can affect the physiology. Emotional forces can affect the physiology to produce tissue damage. Emotional forces can affect perception, thinking, feeling and behavior. Schemes of cognition of emotional forces. Part three, Elements of psychodynamics: The organism as a unit. The structure of the mind. Development of the mind. Basic biologic forces in the mind. Appendix: The nature of nervous reactions. Index.

Note: Primarily an introduction to psychiatry. This work can be viewed also as an introduction to the study of behavior or of personality. The author views it as a book on dynamic psychiatry or "psychodynamics," and he defines the latter term as "the science of mechanisms of biologic organisms. The study of the living organism, the roots of behavior as basic physiologic processes, and the interactions of psychologic and physiologic reactions are emphasized. Only the main ideas of the field are discussed and the book is written in style that makes it available to a wide circle of readers both within and without the professions of psychology and psychiatry.

SCHINDLINGER, SAUL

Psychoanalysis and group behavior: a study of Freudian group psychology New York: W W Norton & Company Inc., 1952 245 p. 22 cm. \$3 75 1609

Contents: Part one, The Freudian concepts of group relations: The social tendencies of man—a historical background. The Freudian theory of the drives and social tendencies. Basic group processes. The role of the leader. Intra- and inter-group conflicts. Part two, Implications and applications: The Freudian concepts of group relations—a recapitulation. Some implications of Freudian group psychology. The Freudian concepts and other fields of group study. Psychoanalysis and educational practice. The relationship of psychoanalysis to group psychotherapy. Bibliography. Index.

Note: The author believes that the emotional factors in group behavior have not been given sufficient importance by the psychologist. The purpose of his book, written for social psychologists, group workers, and teachers, is to examine the contributions of the orthodox Freudians to our understanding of group psychology. The author does not leave the point of view of one school over others. He has carefully assembled and clarified the concepts of the Freudians in the field. In his consideration of psychoanalytic concepts methods of therapy and research have not been discussed. There are thirteen pages of bibliography, including books, pamphlets, and periodical literature with full author and title notations.

SKELDON, WILLIAM HERBERT

Varieties of delinquent youth: an introduction to constitutional psychiatry with the collaboration of Emil M. Hartl and Eugene McDermott New York: Harper & Brothers, 1949 899 p. illus. 23 cm. \$8.00 1610

Contents: (children) Part one, Orientation for biological factors: Orientation. Glossary 1—definitions leads to the constitutional approach. The psychiatric variables; outline for an operational psychiatry Part two, Two hundred biographies: Glossary 2—summary for the Hayden abridgment for biography The biographies. Part three, Psychiatry of delinquency: Biological delinquency The social psychiatry of delinquency Epilogue. Index.

Note: An elaborate technical presentation of trends which may eventually affect person's behavior is closely related to his bodily structure or somatic type. "Constitutional psychiatry" is thus diametrically opposed to the Freudian concept of the mind and its effects upon behavior and personality patterns. It leads to view that delinquency is result of the weakness of the human structure which is currently declining in quality according to the author. The text is buttressed with 200 case histories, each one of which is accompanied by four photographs which show the body type of the subject. The work is based on twenty-year study of delinquent youth at the Hayden Goodwill Inn, Boston social agency. The author is Director of the Constitution Laboratory of the College of Physicians and Surgeons, Columbia University.

SILVERBERG, WILLIAM V

Childhood experience and personal destiny
a psychoanalytic theory of neurosis. New
York Springer Publishing Company Inc.,
1952 289 p. 22 cm. \$4.50 1611

Contents: Introduction—The need for theory of personality. Revised theory of personality and neurosis. The sense of unity or cohesion. The first experiential group—problems of unity and cohesion. The second experiential group—problems of discipline. The third experiential group—problems of therapy and reality. Further therapeutic aims. Bibliography. Index.

Note: A new theory of neurosis based upon the theories of Freud but going beyond them in broadening the range of childhood experiences which may cause psychic trauma. The categories of experiences which the author believes affect mental health are aimed at the sublimation of the third, fourth and fifth chapters above. The author stresses the importance of the experience of the first six years of life. The book is written in the technical terminology of Freudian psychoanalysis. The author is Clinical Professor of Psychiatry in New York Medical College.

SLAVSON SAMUEL RICHARD

Analytic group psychotherapy with children adolescents, and adults. New York Columbia University Press 1950 275 p. illus. 23 cm. \$3.75 1612

Contents: Historic background and current practice. Transference and substitution in group psychotherapy. Catharsis, regression, and reality. Direct and derivative insight. ego strengthening, catharsis displacement, sublimation, and reality testing. Some specific dynamics in analytic group therapy. Functions of the group therapist. Play group psychotherapy with pre-school children. Activity-interview psychotherapy with children. In latency. Analytic group psychotherapy with adolescent girls. Analytic group psychotherapy with adults. Analytic group psychotherapy as an institution. Selection and grouping of patients. The use of groups in the treatment of psychotics. Glossary. Index.

Note: (2644) Three types of group psychotherapy are described and illustrated in this work: group play psychotherapy for pre-school-age children, activity-interview group psychotherapy for certain older children, and interview group psychotherapy for adolescents and adults. A generous portion of the volume is given over to records of actual sessions at the Jewish Board of Guardians, child guidance agency in New York City. Short extracts from records are selected to illustrate or highlight the meaning of theoretical statements. Full records of six sessions are included with condensed interpretations and brief discussions of dynamics as related to the therapeutic process. The book is a companion work to the author's *An introduction to group therapy*. New York, 1943.

STRECKER, EDWARD ADAM

Fundamentals of psychiatry Fifth edition.
21 illustrations. Philadelphia J B Lippincott Company 1952 250 p. illus. 24 cm. \$4.50. 1613

Contents: The importance and the opportunities of psychiatry. Etiology. Classification of mental disease. Further thoughts about nomenclature and classification. Methods of examination and diagnosis. Organic psychoses. Toxic psychoses. Functional psychoses and psychoneuroses. Psychosomatic medicine and psychiatry. Delict action types. Treatment including psychotherapy. Psychiatry and law. The nurse and the psychiatric patient. Glossary. Index.

Note: (1409) A standard manual of instruction on the concepts of psychiatry which the author believes are essential to general practitioners in their regular practice. By writing in terse style and addressing himself to persons already educated in medicine, the author has succeeded in covering much ground in small space. He emphasizes the importance of psychiatry and the importance of an understanding of psychiatric concepts and techniques on the part of medical men in general practice and in other specialties. The new changes in this edition is comparison to preceding ones is the addition of the chapter on treatment.

STRECKER, EDWARD ADAM, AND OTHERS

Practical clinical psychiatry By Edward A. Strecker Franklin G. Ebaugh and Jack R. Ewalt. Section on Psychopathologic problems of childhood by Leo Kanner. Seventh edition. Philadelphia The Blakiston Company 1951 506 p. illus. 24 cm. \$7.00. 1614

Contents: Personality development and function. Methods of psychiatric examination. The psychic reaction type. Toxic psychosis. The affective reaction type. The schizophrenic reaction type. The constitutional psychopathic state. Reactions of depressed and constitutional defects. Paradoxical reaction type and persons. Toxic manic reactions. Psychoneuroses. Psychosomatic medicine. "Support" psychotherapy. Pathologic delirium. Psychopathologic problems of childhood. Index.

Note: (1510) A standard, widely-used manual of clinical psychiatry. It presents a broad, fairly detailed view of the subject in a relatively small space. Case histories are used freely in the presentation and the areas of contact among psychiatry, internal medicine and other specialties are indicated. The book is used as a general outline for practitioners as an authoritative source of information about contemporary clinical psychiatry. The sixth edition was published in 1947. In this edition the major changes are noted sections of classification in the second chapter and the addition of the chapter on "support" psychotherapy. Last extensive changes have been made in other chapters and recent literature has been added to the bibliography.

WATKINS JOHN GOODRICH

Hypnotherapy of war neuroses a clinical psychologist's casebook. New York The Ronald Press Company 1949 384 p. illus. 23 cm. \$5.00 1615

Contents: Part I, Military neuroses: Introduction. Psychobiology in military settings. Theoretical basis of treatment. Strategy and tactics. Part II, Hypnotherapy: Hypnosis, past and present. Induction. Part III, Hypnotherapy: Hypnotic techniques. Advanced hypnotic techniques. Part IV, Individual case studies: General therapeutic techniques. Part V, Individual case studies: Special topics in the case studies. Aphasia. Amnesia. Stuttering. Social phobia. Obsessive. Phobic. Psychogenic phobic-volitional reactions. Trauma. Post-traumatic hysteria. Compulsive. Hysterical personality. Part VI, The hypnotherapy treatment of an attached phobia: History of the use of hypnosis. The problem is much deeper. Conflict: One body-two personalities. The talk of Mr. Y. Dreams of fear. Summary. Glossary. The neurologist in mind. Part VII, Conclusion: Summary. Glossary. Military terms. Professional terms. Bibliography. Author index. Subject index.

Note: A report of psychotherapy done by the author in the neuropsychiatric division of an Army convalescent hospital during and immediately after World War II. The cases whose treatment is described in the case studies were men of various backgrounds who became neurotically ill during their military service as a result of the trauma of war. The cases were selected from a much larger number in order to illustrate the different forms which war neuroses take. The book is a sequel to the author's *Psychiatric treatment of war neuroses* of 1943—may take and the value of the treatment. The cases are arranged in order of the nature and purpose of the therapy. The theoretical basis of the author's work and the therapy of hypnotherapy techniques. The case studies include nature of hypnotherapy techniques. The case studies include the quoted transcripts of extended sessions between hypnotherapist and patient.

WATSON, ROBERT IRVING

The clinical method in psychology New York Harper & Brothers, 1951 779 p. 22 cm. (Under the editorship of Gardner Murphy) \$5.00. 1616

Contents (abridged) Part 1, Introduction. The clinical method. Part 2, Diagnostic appraisal: The functions of diagnosis. Observation and rating in clinical diagnosis. The diagnostic interview. Tests on diagnostic instruments. Procedures in diagnostic testing. The Wechsler-Bellevue Intelligence scale. Revised Stanford-Binet tests of intelligence. Performance tests of intelligence. The Vineland social maturity scale. Diagnostic testing of infants and preschool children. Tests of memory and conceptual thinking. The projective approach to personality evaluation. The Rorschach picture-frustration study

The thematic apperception test. Part 3, Psychotherapy: The psychotherapeutic values to be found in diagnostic materials. The common factors in psychotherapy. Some systematic approaches to psychotherapy. Psychotherapy with children. Group psychotherapy. Indirect methods of treatment. Name index. Subject index.

Notes: This text on the application of psychological principles and techniques to the problems of the individual is designed primarily for advanced college students. The treatment of diagnosis is more detailed and written on a higher level than that of psychotherapy where the author has been intentionally descriptive rather than critical. Projective techniques other than those listed in the contents are treated only sketchily and case studies are used only when needed to complete understanding of basic methods. However the extensive, up-to-date bibliographies included with each chapter refer to much additional material. The author is faculty member of the Department of Neuropsychiatry of Washington University's School of Medicine.

MENTAL HYGIENE AND POPULAR PSYCHIATRY

CARROLL, HERBERT ALLEN

Mental hygiene the dynamics of adjustment. Second edition New York Prentice-Hall, Inc. 1951 448 p. Illus. 22 cm. \$6.35
1617

Contents: Introduction. Misconceptions of human behavior. The need for physical security. The need for emotional security. The need for mastery. The need for status. Learning behavior disorders. Adjusting to frustration. Neurotic adjustments. Psychotic adjustments. The school and the community. Mental superiority and delinquency. The role of measurement. Repeating mental health. Questions for study and discussion. Bibliography. Index.

Note. (1) (1979) A textbook on mental hygiene written especially for two groups of college students: (1) those beginning work as "majors" in psychology; (2) those who are not "majors" in psychology but are interested in learning something of the dynamics of adjustment for personal or professional enrichment or advancement. Emphasis in the book is upon the application of principles rather than upon theory as such. In the second edition about two-thirds of the material is carried over from the first with substantial changes in the remaining one-third. New sources of the chapters, including new research and new data, have been added to the already plentiful reviews. Statistical data have been brought up to date and additional research studies and case material included. The final chapter serves as transition to courses in clinical psychology.

There is an extensive bibliography. The authors are staff members of the Institute of Human Relations of Yale University.

HORNBY, KAREN

Neurosis and human growth the struggle toward self-realization. New York W W Norton & Company Inc., 1950. 391 p. 22 cm. \$4.50 1619

Contents: Introduction—a necessity of evolution. The search for glory. Neuritis claims. The tyranny of the mind. Neuritis public tests and self-control. Absorption from self. General measures to relieve tension. The suggestive relationship—the appeal of money. The self-sufficing attitude—the appeal of love. Internal discipline. Resignation—the appeal of freedom. Neuritis dependent on human relationships. Neuritis disturbances in work. The role of psychoanalytic therapy. Theoretical considerations. References. Index.

Note: A penetrating study of a grade viewed as such and not merely as a means to an end. It is designed for the reader primarily and is written in the same clear, convincing style that has characterized this author's other books.

HUGHES, MARGARET MARY, editor

The people in your life psychiatry and personal relations, by ten leading authorities. New York Alfred A. Knopf 1951. 278 p. 21 cm. \$3.50 1623

Contents: Miss woman, by Eric Pomeroy. Holland—etc., by J. A. Kabin. Person-child, by F. H. Adams. Age-youth, by J. L. Brackland. Race majority—race minority, by M. Mead. Student-teacher, by C. Klatschko. Friend-friend, by J. A. P. Miller. Employee-employer, by L. H. Harrison. Power-patience, by G. S. King. Religion—community, by G. S. Harrison.

Note: The ten lectures here collected were first delivered by Oppenheimer in psychiatry sponsored by Tamm Hall of New York University in 1946 and largely to the background and understanding of the average layman. They serve to avoid introduction to some who make (from psychiatry) better comprehension of human mind of the society of which he is part. Included in the text and contributing to its worth are questions and answers transcribed from the discussion which followed each lecture when it was presented. Looka Index.

LEMKAU PAUL VICTOR

Mental hygiene in public health. New York: McGraw-Hill Book Company Inc., 1949. 396 p. illus. 23 cm. (McGraw-Hill series in health science, Amos Christie, consulting editor) \$5.50.

[illegible]

Note. This book follows the organization of course in mental hygiene given by the author in the School of Hygiene and Public Health of the Johns Hopkins University. It gives practical reasons of the phenomena of mental hygiene in an overall program of public health and preventive medicine.

DOLLARD JOHN AND NEAL E. MILLER

Personality and psychotherapy: an analysis in terms of learning, thinking, and culture. New York: McGraw Hill Book Company Inc., 1950. 488 p. illus. 24 cm. (McGraw Hill publications in psychology. Clifford T Morgan, consulting editor) \$7.50. 1618

Contents (abridged): Part I, Orientation. Part II, Basic principles of learning. Part III, The normal use of the mind in solving problems. Part IV, The transition to higher mental processes. The role of words and language in solving problems. Social conditions and productive thought. Transference and group. Social attitudes in the use of higher mental processes. Part V, How awareness is learned: Social conditions for the learning of unconscious conflicts. How transference are learned. The unconscious—how operation is learned. Part VI, New conditions of therapeutic learning: Selecting patients who can learn. Free association—paradoxes and the compulsion to resist Transference—generalized response in the therapeutic situation. Labeling—teaching the patient to think about new topics. Teaching the patient to deconstruct—role of past and present. Part VII, Conflict. Why conflict and why can be relieved only in real life. The dynamics of conflict—their implications for therapy. A hypothesis of conflict: conflict, habituation, and liberality. Part VIII, Social aspects of therapy. What is a social act of transference? The social aspects of transference. The transference as a social act of transference. Part IX, Two applications to research. Self-study. Superseding transference thoughts to get broader for creative thinking. Bibliography. Name index. Subject index.

Both the formation of awareness and the formation of the learning process and of the social and the point of view of the principles of Freud and his school. The findings of experimental psychology and an exact psychology of the human mind. The experimental style of the human mind. On the other hand, the psychology can read its own path. On the other hand, the mind and the content will be of interest to persons who are personally concerned with psychoanalysis and personality study.

MCKINNEY, FRED

Psychology of personal adjustment, students' introduction to mental hygiene. Second edition. New York: John Wiley & Sons, Inc., 1949. 752 p. illus. 22 cm. (Wiley publications in psychology) Herbert S. Langfeld, advisory editor. \$6.00 1622

Contents: Introduction. Adjustment to college work. Concentration, learning, and thinking. Personal efficiency. Understanding oneself. Development of personality. Creative adjustment. Personal orientation. Vocational selection. Social adjustment. Social psychology and leadership. Affections and conventions. Mental adjustment. Emotional stability. Self-confidence. The adjusted personality. Appendix. Means index. Subject index.

Note: (2001) A well-written and eminently practical discussion of the emotional and psychological problems which face the average college student. The book stresses the student's point of view and is designed for use as a text in introductory psychology courses and for individual reading. In this edition it has been revised and enlarged to incorporate the latest trends and developments in the field of personal adjustment. A chapter on development of personality has been added, and new case studies have been included. The chapter bibliographies have also been brought up to date.

MILBANK MEMORIAL FUND

Epidemiology of mental disorder. Papers presented at a round table at the 1949 annual conference of the Milbank Memorial Fund, November 16-17, 1949. New York: Milbank Memorial Fund, 1950. 198 p. 23 cm. Paper \$0.50 1623

Contents: Part I, Review of available material on patterns of occurrence of mental disorders: Introduction, by R. H. Feltz. Major disorders, by K. Lindemann and others. Major disorders, by K. M. Greenberg. Part II, Evaluation of this material: Contribution of this material, by J. H. Dangle and T. Francis. Part III, Plans for study of the epidemiology of mental disorders: Plans for study of the epidemiology of mental disorders—most urgent problems to be investigated, by R. P. Knight. A proposal for research in the epidemiology of psychiatric disorders, by A. H. Leighton. An epidemiologic analysis of suicide, by J. E. Gordon and others. Review of available material on patterns of occurrence of mental disorders—major disorders, by K. M. Greenberg. List of participants.

Note: A collection of original papers, together with transcripts of the discussions of them at the round table named in the book's title. The "Review of available material on patterns of occurrence of mental disorders," by K. M. Greenberg, is classified bibliography of 543 references. The book is of particular interest to persons concerned with the public health aspects of mental disorders.

STEECKLE, LYNDE CHARLES

Problems of human adjustment. New York: Harper and Brothers, 1949. 351 p. illus. 22 cm. [Under the editorship of Gardner Murphy] \$3.00 1624

Contents: Introduction. Man the animal. Emotional being. Mind-body relationship. Being. The road to success. The main problems of life. Beauty to man. Community and marriage. Happiness in work. The march for God. Maturity in old age. A readable outlook on life. Bibliography. Index.

Note: The author of this book states "college students, professional persons, industrialists, factory or clerical workers—in fact all mankind—must face and resolve certain fundamental issues of living. The theme here presented is that these issues obtain problems arise only when man attempts to meet them with inadequate preparation. The book is unsophisticated, commonsense description aimed at general readers and college students. It is well documented with references to more than 270 books and papers. The author is professional psychologist."

STEECKER, EDWARD ADAM

Basic psychiatry. New York: Random House, 1952. 473 p. 21 cm. \$3.75 1625

Contents: Introduction. Concepts. Classification or naming. Explanatory and symptoms. The organic psychosis. Toxic psychosis. "Functional" psychosis. Manic-depressive and schizophrenic psychoses. Personality and personality conditions. Psychosomatics. The psychosomatics and psychosomatics of pregnancy and childbirth. Psychological drinking. Mental defects. Constitutional psychopaths. Inferiority. Treatment. The after care. A design for childhood. The psychiatry of war. Postscript. Index.

Note: A book for laymen and other non-specialists on the latest problems which develop need for psychiatric attention. The common psychiatric ailments are described with case studies to point up the descriptions and make them more concrete to the reader. The language is relatively simple and the total work points broad picture of what the psychiatrist are currently able to do in discussing attention and treating mental ailments. The author is Professor of Psychiatry at the University of Pennsylvania.

THORPE, LOUIS PETER

The psychology of mental health. New York: The Ronald Press Company, 1950. 747 p. illus. 21 cm. \$5.25 1626

Contents: Part I, The problems of mental health. Modern society and mental health. Part II, The psychodynamics of mental health. Basic needs and mental health. Psychosomatics and mental health. Motives and evaluation of mental health. Adjustment mechanisms and mental health. Part III, Personality and mental health. Mental health and the expression of personality. Psychological factors in personality and mental health. Development of personality. Part IV, Conditions needed by adequate mental health. Minor personality maladjustments. Psychosomatic disorders. Hostile behavior. Deviant social behavior. The psychosomatic. The (social) psychosomatic. Part V, Improving mental health: Mental health and the home. The school and mental health—teacher-pupil relationships—subject matter and administrative aspects. The community and mental health. Diagnosing mental health and personality. Therapeutic methods and treatment. Glossary of technical terms. Author index. Subject index.

Note: A comprehensive text written at the college level and designed for use in courses on mental hygiene. Dynamics of personality and its wide scope makes it useful also as an orientation survey for such professional people as teachers and social workers. Particular attention is paid to the significance of home and school experience as related to mental health. Source studies and books are cited in footnotes throughout the book and the chapters conclude with lists of recommended readings. The author is Professor of Education and Psychology in the University of Southern California.

WALLIN, JOHN EDWARD WALLACE

Personality maladjustments and mental hygiene. A textbook for students of mental hygiene, psychology education, sociology and counseling. Second edition. New York: McGraw Hill Book Company Inc., 1949. 581 p. 24 cm. (McGraw Hill publications in psychology) Clifford T. Morgan, consulting editor. \$5.50. 1627

Contents: (abridged) Part I, Introduction: The concept of mental health and mental hygiene. The remedial, preventive, and positive objectives of the mental-hygiene program. The physical, psychological, and social factors or elements of the mental-hygiene program. The educational elements and significance of the mental-hygiene program. Types of children with whom mental hygiene is concerned. Psychosomatics methods. Part II, Symptoms of personality maladjustment as evidenced by symptoms on psychosomatics methods of responses to difficulties. Specific types of healthy methods of solving life's problems, with preventive and remedial suggestions. Bibliography. Author index. Subject index.

Note: (2011) An introduction for the chosen of readers named in the subtitle. For book at this level it is exceptionally inclusive. All of the common types of personality maladjustments are described in some detail. Also, fully as much attention is given to normal resolving of mental difficulties and the developing of balanced personality. A feature of the book is a large number of short autobiographical sketches that illustrate personality maladjustments, including those of intellectually normal and superior individuals. The first edition was published in 1915. For this edition the chapters of the original edition were modified and rearranged. One new chapter has been added and there are many new sections within chapters. The bibliography is an extensive one and in this edition it covers literature published as late as 1944.

PSYCHOLOGY

GENERAL

ANASTASI, ANNE, AND JOHN P FOLEY, JR.

Differential psychology Individual and group differences in behavior Revised edition
New York The Macmillan Company, 1949
894 p. illus. 22 cm. \$6.00 1628

Contents: Part I. Historical and methodological considerations: Introduction. Historical aspects of psychological testing. Measurement and extent of individual differences. Heritability and environment. Part II. Analysis of individual differences: Biological factors in simple behavior development. Psychological factors in simple behavior development. The effects of practice, schooling and intelligence. Age differences. Family resemblance. Twins and foster children. Bodily conditions and behavior. The quest for constitutional traits. Variability within the individual. Trait organization. Part III. Major problem differences: The internalized Gospels. Sex differences—basic problems—major results. Mental capabilities—problems of grouping—problems of measurement. Mental versus cultural differences. Socio-economic differences. The individual. Index.

Notes. (5077) A textbook in which differential psychology is presented in one approach to the understanding of behavior and in which the experimental knowledge upon which differential psychology is based is organized and summarized. The book is especially designed for the undergraduate college course in the area of training in psychology. Long lists of literature references are included. In addition to their usefulness in connection with the study of the book, these lists may serve as guides to the knowledge and the literature of such subjects as psychological differences between the sexes. In this section the book has been extremely helpful and much additional

ANNUAL REVIEW OF PSYCHOLOGY Volume 3

Calvin P Stone, editor Donald W Taylor
associate editor Stanford, Calif Annual Re-
views, Inc. 1952 462 p. 23 cm. \$6.00 1629

Contents: Child psychology, by V. Mowles and H. H. Mowles.
Learning, by H. F. Hadow, edited by K. Rabin. History, by
B. Ginzburg. Abnormality and the child, by G. W. Wood.
Individual difference, by L. G. Humphrey. Personality, by H. J.
Eysenck. Social psychology and group processes, by M. B. Smith.
Industrial psychology, by C. W. Brown and E. K. Gilinski. Com-
parative and physiological psychology, by H. W. Milner and J.
Russett. Abnormalities of behavior, by J. Zubin. Clinical methods,
Psychodiagnostics, by A. Marmor. Clinical methods: psychotherapy,
by F. C. Raley. Counseling: therapy and diagnosis, by W. M.
Thurman. Educational psychology, by J. K. G. Klapper. Statistical
theory and research design, by G. McManis. Motivation, by O. H.
Mowles.

Notes: The sections or papers in the present volume of this recently established review are essentially literature abstracts after pattern. The series is addressed to graduate psychologists and serves both as a review of progress and guide to the recent literature. Names of authors of all the cited papers are entered in the author index and detailed subject index carries the contents of the entire volume.

Boring Edwin Garrigues

A history of experimental psychology Sec
ond edition. New York Appleton-Century
Crofts, Inc., 1950. 777 p illus. 24 cm. (The
Century psychology series Richard M. El
lert editor) \$6.00. 1630

Contents (abridged): Origins: The rise of modern science. Origins of modern psychology within science: Psychophysiology in the first half of the nineteenth century. Phrenology and the mind-body problem. Physiology of the brain, 1800-1870. Specific energies of nerves. Physiological psychology of sensation, 1800-1850. Hypno-

1. The personal equation. Origin of modern psychology within philosophy? Hippocrates of modern psychology—Descartes, Leibniz and Locke. British empiricism—Berkeley, Hume and Hartley. British associationism—the Mills and Reid. German psychology before 1800—Kant, Herbart and Lotze. The founding of experimental psychology—Wundt. Theodor Fechner. Hermann von Helmholtz. Wilhelm Wundt. Establishment of modern psychology in Germany. Establishment of modern psychology in Great Britain. Edward Thorndike. American psychology. Behaviorism. In modern psychology. Gestalt psychology. Psychoanalysis. Brain function. Dreyfus 1986. Chapter 1. *History of psychology*. Index of subjects.

Notes: The first edition of this activity was first appeared in 1979 and rapidly attained the status of classic. The original text was written exclusively specifically for the present audience. The author has stated that about half of the new text is new writing. The scope is still the psychology of the general five, human, normal, adult male as revealed by the psychological laboratory and the range in time is now from about 1880 to about 1940. In spite of this, the introduction by nature, school, and other groups the effect of the book is that of participant survey of the subject. The narrative is provided in 1978 names, dates, and titles of works. However, these are integrated by historical narratives in which the author clearly and authoritatively delineates the contribution of each school and movement and evaluates the significance of each psychological milestone.

BRUNSWICK, Egan

The conceptual framework of psychology
Chicago The University of Chicago Press
1952 102 p. illus. 24 cm. (International en-
cyclopedia of unified science. Vol. 1, no. 10)
\$2.00. 1631

Constructive Experiences and the emergence of the objective approach. The functional want of behavior and the level of complexity of psychological research. Misconceptions of scientific in psychology. The official approach and constructive crisis in psychology. Consequences of the official approach. Constructive approach. Psychological state.

Notes: A critical study of the concepts and methodology of psychology. The author deals mainly with the problems in these areas which are posed by the two basic approaches, the objective and the functional, or *static*. In examining these problems in descriptive and evaluative very carefully the concepts and methodologies of the child schools of psychology and of the major individual contributors to psychological thought. There is, here, partly statistical bibliography.

CRAFTS LELAND WHITNEY AND OTHERS

Recent experiments in psychology. By Le-land W Crafts, Theodore C. Schneirla, Elsie E. Robinson, and Ralph W. Gilbert. Second edition. New York McGraw-Hill Book Com-pany Inc. 1950. 503 p. illus. 24 cm. (McGraw-Hill publications in psychology Clifford T. Morgan consulting editor) \$4.00 1632

Contents (abridged): A study of attitudes toward narcotics among college students. The origin of the cat's impression in man and other. Migration and the "butter" problem. Comparisons and comparisons. The physiology of emotional behavior. Facial expressions in emotion. The duplicity theory of vision. The perception of distance by the eye. The function of the brain in relation to intelligence. The nervous system in relation to behavior. The electrochemistry of the nervous system. The effect of destruction upon the performance of certain tasks. A comparison of the intelligence of "man" and "monkey" in Europe. The conditioning of behavior. The importance of organization for retention and transfer. Methods of breaking undesirable habits. Conflict and experimental sources of conflict. Problems in the perception of the vertical in space. Perception and memory as influenced by attitude and experience. Impulse and muscular activities during thinking. Projection and the character of

perception test. The spin-disk technique as used in study of the effects of bombing on Japanese morale. Index.

Notes. (2014) A college textbook that serves as an introduction to the methods of current experimental psychology and to some notable results of modern experiments. In general, in such of the chapters several experiments are specifically described, then the methods and findings are both discussed. Although some technical terminology is employed, the book is easy to read and most of it can be grouped by the average educated reader without the aid of an instructor. In this edition the work contains seven chapters that did not appear in the original edition and there are other important changes.

CURRENT TRENDS IN PSYCHOLOGICAL THEORY
by Wayne Dennis and others. Pittsburgh University of Pittsburgh Press, 1951 213 p. 22 cm. \$4.00. 1633

Contents: Developmental theories, by W. Dennis. Theories of personality, by R. Luper. Learning theories, by H. P. Harter. Theories of perception, by J. I. Olson. Cognitive and motivation in psychology, by G. L. Koch. Theories of psychobiology, by D. McK. Black. Brain and behavior, by W. S. McCulloch. Principles and problems of theory construction in psychology, by E. Feld.

Notes: A collection of lectures originally delivered at the University of Pittsburgh in February 1951 under the auspices of the Department of Psychology. The authors include professors of psychology and psychiatry from leading American universities. Each of the authors has outlined the current status of a specific area of psychology and has indicated the probable direction of further developments. A list of literature references accompanies each lecture. Although addressed to advanced college students studying in psychology and graduate psychologists, the book is handy and authoritative source for anyone with professional interests in the field.

GARRETT, HENRY EDWARD

Great experiments in psychology Third edition. New York: Appleton-Century-Crofts, Inc., 1951 358 p. illus. 24 cm. (The Century psychology series edited by Richard M. Elliott) \$3.50. 1634

Contents: Pavlov and the conditioned reflex. Freud's and Leubner's studies of the role of the brain in learning. Thorndike's laws of learning. Kilbuck's experiments in perception and learning and their importance for Gestalt psychology. Thorndike's and Woodworth's experiments on the transfer of training and their influence upon the doctrine of formal discipline. Ebbinghaus's studies in memory and forgetting. Witkin's studies of the behavior of the human infant. Cannon and experimental studies of the autonomic. Experimental approaches to personality study. McDougall and social psychology. Binet and the individual intelligence test. The Army tests—Allen, Beta, and ADOCT. Galton and the measurement of individual differences. Visual and auditory perception—the work of Helmholtz and others. Cattell's studies of reaction time. Weber's and Fechner's laws and the development of psychophysics. Index.

Notes. (2014) The place of organization in most of the chapters of this book is first to describe the classical experiment, then to show what has followed it. The author's interpretation of these significant experiments and his evaluations of the theory built upon them are in themselves contributions to psychology. The book is read mostly by college students of psychology. However, some chapters on Gestalt and intelligence testing are also useful to laymen and to persons in professions other than psychology. The second edition was published in 1941. In this edition the scope and purpose of the book are unchanged but considerable revision is evident in most of the chapters. Revisions and additions have been made in the text and new literature has been added to the bibliographies now printed at the ends of the chapters. The chapter on "McDougall and social psychology" has been added. The order of the chapters has been rearranged and the order of topics within the chapters has also been revised.

HAYEK, FRIEDRICH AUGUST VON

The sensory order: an inquiry into the foundations of theoretical psychology With an introduction by Heinrich Klüver. Chicago Illinois: The University of Chicago Press, 1952 209 p. 22 cm. \$5.00. 1635

Contents: The nature of the problem. An outline of the theory. The nervous system as an instrument of classification. Sensation and behavior. The structure of the mental order. Consciousness and

conceptual thought. Conclusions and verifications of the theory. Philosophical consequences. Bibliography. Index.

Notes: Professor Hayek, an eminent economist, was at one time a student of psychology. This book is a presentation of his theory of sensory order and the relations between physical and sensory phenomena. It is his thesis that "sensory perception must be regarded as an act of classification. He approaches this problem of classification to determine the relationships between experience and the relationship to the conditions. Hayek makes experience possible. The work is philosophical and theoretical and is designed to pose problems for future consideration as well as to stabilize some of the material already known and available.

JEFFREYS, LLOYD A., editor

Cerebral mechanisms in behavior the Hixon symposium, New York: John Wiley & Sons, Inc., 1951 311 p. illus. (part col'd) 23 cm. \$6.50. 1636

Contents: The general and logical theory of autistics, by J. von Neumann. Why the mind is in the head, by W. S. McCulloch. General discussion. The problem of social order in behavior, by K. S. Lashley. Functional differences between the ecological and temporal lobes with special reference to the interactions of behavior and subcortical mechanisms, by H. Klüver. Functional determinants in perception, by W. Kibler. Brain and intelligence, by W. C. Halstead. General discussion. The symposium from the viewpoint of clinicians, by H. W. Brans. Name Index. Subject Index.

Notes: The edited transcripts of lectures and discussions presented at a symposium held September 20-25 at the Children's Institute of Technology under the auspices of the Hixon Fund Committee. The symposium was planned as a step in the integration of experimental results and knowledge from several fields of science which impinge on the relations between behavior and brain. The level of discussion is advanced and the book is addressed to such readers as graduate psychologists, neurologists, and biologists.

KUHLER, RAYMOND G. AND GEORGE G. THOMPSON, editors

Psychological studies of human development. New York: Appleton-Century-Crofts, Inc., 1952 533 p. illus. 24 cm. (The Century psychology series edited by R. M. Elliott) \$3.50. 1637

Contents (abridged): Foreword to students. Physical factors in psychological development. Processes of learning and adjustment. Psychological growth under different social-cultural conditions. Intellectual changes with age. Intelligence and psychological adjustment. Patterns of language-conceptual growth. Interest patterns and their implications. Growth of social values and attitudes. Social development—developmental relations. Emotion and family relations. Adjustments in school. Vocational orientation and adjustment. Some factors in personal and emotional adjustment. Index.

Notes: An anthology of selections or "readings" chosen for college students who are studying in developmental psychology, child psychology or in other fields where knowledge of the psychological aspects of human development is essential. There are 71 papers of interest, checked under the headings given above. Most of them are abridged, but the abridgments were sufficiently done and references are always given to the original publications. As to the criteria for selection, the editors state: "The present papers have been selected to provide sampling both with respect to important areas of research in the psychology of human development, and with respect to broad up-to-date of the life span. An effort has been made to provide papers which utilize great variety of research procedures or which represent groups of studies as means of criticism at broader generalizations which extend theory.

LAWRENCE, MERLE

Studies in human behavior: a laboratory manual in general psychology organized to stress the basic principles of individual and group behavior with emphasis on perception. Princeton: Princeton University Press, 1949 184 p. illus. 28 cm. \$3.50. 1638

Contents (abridged): Instructions regarding laboratory work. General introduction. Part I, Sensory experience. Part II, The nature of

Contents: Introduction. Historical background. Consciousness and the field of attention. Ideas, imagery and language thought. The mechanics of thinking. Logic in relation to the psychology of thinking. Concept formation. The transfer-retention sequence. Problem solving. Imagination. Aesthetic thinking. Creative thinking. The internalization of experience. General aspects of personalized thinking. Attitudes. Public aspects of personalized thinking. Case studies. Name index. Subject index.

Note: A survey in which knowledge from various areas of psychology that bear on the thinking process in human beings has been assembled and organized. It is addressed primarily to intermediate-level college students; hence familiarity with accepted psychological terminology and some acquaintance with the methods of experimental psychology have been assumed. The book was based on an extensive literature survey and statements in the text are keyed to literature citations in the bibliography appended to each chapter. The author is faculty member of the University of Hawaii.

TEXTBOOKS

ANDERSON, JOHN E.

The psychology of development and personal adjustment. New York: Henry Holt and Company, 1951. 720 p. illus. 22 cm. \$3.90 1650

Contents (abridged): Why study human adjustment? Section 1: Equipment for living: The body and the nervous system. Life span and the development of the infant. Section 2: Learning skills: How skills are acquired. The development of language and symbolic skill. Problem solving and thinking. Section 3: Motivation, emotions, and attitudes. Section 4: Social behavior. Section 5: Adjustment. Personality under adjustment. Stress, maturity and adjustment. Inadequate adjustment. Section 6: Orientation to adult life. Adjustment in culture. Maturity and old age. Adjustment to vocation. Section 7: Adjustment to family life: Courtship and marriage. The home. Adjustment in marriage. References. Index.

Note: This book is an example of texts in which findings in various fields of psychology are drawn on and reinterpreted for the benefit of freshmen and sophomore college students who are not presently interested in psychology in other words, it is a "casual" type of text designed to give the general student some idea of the scope of psychology and foster ideas of its potential applications to himself and his life problems.

GUILFORD JOY PAUL, editor

Fields of psychology: basic and applied. Second edition. New York: D Van Nostrand Company Inc., 1950. 779 p. illus. 24 cm. (The Van Nostrand series in psychology J P Guilford, editor) \$5.00. 1651

Contents (abridged): Animal psychology: viewpoint and progress—methods and results, by C. J. Warden. Child psychology by H. B. English. Educational psychology by H. B. English. The concepts and methods of social psychology by D. Katz. The psychology of the crowd, by D. Katz. Abnormal psychology: the significance and causes of abnormal behavior—the major abnormalities—the major abnormalities, by L. F. Shaffer. The nature of individual differences, by A. Анастази. Major group differences, by A. Анастази. Clinical psychology by R. I. Watson. Individual mental efficiency by D. H. Fryer. Vocational psychology by M. R. Vitebsky. Professional psychology by D. H. Fryer. Physiological psychology by G. L. Fessenden. Americanism, by K. Kerner. Points of view by M. M. Miesfeld. Index of names. Index of subject matter.

Note: (3051) A book planned to give broad view of the fields or subfields of contemporary psychology. Under each heading the field is defined, its subject content outlined, some of the basic knowledge furnished. The book is designed primarily for college students who have completed an introductory course and need additional information either to round out their knowledge of psychology or to enable them to select field in which to specialize. In this edition several chapters are new and several others have been revised.

GUILFORD, JOY PAUL

General psychology. Second edition. New York: D Van Nostrand Company Inc., 1952. 587 p. illus. 24 cm. (The Van Nostrand series in psychology J P Guilford general editor) \$5.00 1652

HELSON, HARRY, editor

Theoretical foundations of psychology. New York: D Van Nostrand Company Inc., 1951. 787 p. illus. 24 cm. (Textbooks on psychology, J P Guilford, general editor) \$7.25 1653

Contents: Neurological considerations, by M. G. Fennell. Some problems of nervous function, by E. C. Calkins. Development and ontological correlates of behavior, by J. M. Gellman. Development and transition, by M. Bayley. Motivation, by F. W. Loomis. Feeling and emotion, by J. G. Bateson. Values and ethics, by R. A. Barclay. Perception, by H. Helson. Learning, by E. A. Kamin. Thinking, by H. F. Harter. Measurement in psychology, by J. P. Guilford and A. L. County. Intelligence, by J. L. Leavitt. Personality, by D. W. MacKenzie and A. H. Maslow. Psychological theory and social psychology, by D. Krack. Abnormal psychology, by R. L. Kline.

Note: A textbook for advanced undergraduates and graduate college students. It is organized in the form of a symposium on the theoretical ideas, concepts, theories, and problems of modern psychology. Each chapter is a detailed presentation, containing discussion of facts, techniques, methods, and experimental data, as well as references to literary and schools of psychology and to the work of individual psychologists. Bibliographies appear at the end of the chapters.

KELLER, FRED SIMMONS AND WILLIAM N. SCHOENFELD

Principles of psychology: a systematic text in the science of behavior. New York: Appleton-Century-Crofts, Inc., 1950. 431 p. illus. 22 cm. (The Century psychology series, Richard M. Elliott, editor) \$4.00. 1654

Contents: Psychology and the values. Experimental conditions. Operant conditioning. Extinction and reacquisition. Generalization and discrimination. Response variability and discrimination. Choice. Secondary reinforcement. Motivation. Learning. Social learning. A last word. References and author index. Subject index.

Note: A college text for introductory courses. Not an unusual one in that it is limited to the knowledge of fundamental principles of behavior which has been gained from experimental psychology. It is unusual also in its attempt to present even introductory materials in psychology (Bibliographies) from systematic and coherent theoretical points of view. Much of the space is given to descriptions of experimental techniques and to the results of noted experiments, all of which were performed on rats and other small animals. However, applications to the understanding of human behavior are discussed. The book is useful to use by college students and also by selected lay readers who wish dependable survey of the scientific basis of psychology. The list of references runs to 306 citations. The authors are members of the faculty of the Department of Psychology at Columbia University.

MURPHY GARDNER

An introduction to psychology by Gardner Murphy with the assistance of Herbert Spohn. New York: Harper & Brothers, 1951. 583 p. illus. (part col d) 24 cm. \$4.50. 1655

PHYSIOLOGICAL PSYCHOLOGY

FORD, CLELLAN STEARNS, AND FRANK A. BRACH

Patterns of sexual behavior With a foreword by Robert Latou Dickinson M.D. New York Harper & Brothers and Paul B Hoeber Inc., 1951 307 p. illus 24 cm. \$4.50 1661

Contents: Foreword, by R. L. Dickinson. The task and the method. The nature of coitus. Types of sexual stimulation. Circumstances for coitus. Attracting sex partner. Sexual partnerships. Homosexual behavior. Relations between different phases. Self-stimulation. Development in the individual. Fecundity fertility cycles. Other physiological factors in sex behavior. Human sexual behavior in perspective. Glossary. Bibliography. Author's note. Index of names. Index of topics.

Note. A comparative study of the sexual behavior of human beings of various present-day cultures and the sexual behavior of various lower animals. The human beings belong to 190 different societies scattered from the Arctic circle through five continents to the tip of Australia. The animals range from rats and mice to the great ape. The authors, respectively professors of anthropology and psychology at Yale University present the volume as a step toward the development of a sound understanding of the sexual behavior of human beings as it is affected by their evolutionary heritage and by the conditions imposed upon them by their social environment.

HEBB DONALD OLDING

The organization of behavior a neuropsychological theory New York John Wiley & Sons Inc. 1949 335 p. illus 22 cm. \$4.50 1662

Contents: The problem and the line of attack. Sensation and learning in perception. Field theory and equipotentiality. The first steps of perception: growth of the assembly. Perception of complex the phase sequence. Development of the learning capacity. Higher and lower processes related to learning. Problems of motivation, time, pain and sleep. The problem of motivational drift. Emotional disturbances. The growth and decline of intelligence. Bibliography. Index.

Note. In this book, theory of behavior "that is based as far as possible on the physiology of the nervous system" is presented. The gist of the theory is that no single nerve cell or pathway is essential to any habit of perception but that responses to stimuli are made by means of diffuse cell-assembly. The author's interest in the subject developed from observations by him and others that human beings suffered little loss of intelligence as a consequence of the removal of substantial amounts of brain tissue.

HULL CLARK LEONARD

A behavior system an introduction to behavior theory concerning the individual or organism. New Haven Yale University Press 1952 372 p. illus 25 cm. \$6.00 1663

Contents: Introductory considerations. Simple trial-and-error learning. Discrimination learning. Behavior and the motor stimulus trace (I). Fractional matching and reactions. Simple behavior chains. Learning within the individual behavior. Behavior in relation to objects in space. Multidirectional maze learning. The problem-solving sequence of behavior segments. Value, valuation, and behavior theory. Concluding considerations. Glossary of symbols. Index of names. Index of subjects.

Note. (1957b) In the author's *Principles of behavior* (New York, 1943) and his *Elements of behavior* (New Haven, Yale University Press, 1951) he stated systematically the primary behavior principles. In this book he has shown "the applications of the principles to the deductions of the simpler phenomena characterizing the behavior of single organisms. These works are aimed toward the systematic quantitative description of both individual and social behavior although because of Professor Hull's death, the planned volume on social behavior will not be written. In the present book the content is cast largely in the form of theorems and of critical discussions of the experimental evidence on which the theorems are based. The book is addressed to graduate psychologists.

MORGAN, CLIFFORD THOMAS, AND ELIOT STELLAR

Physiological psychology Second edition. New York McGraw-Hill Book Company Inc. 1950 609 p. illus. 24 cm. (McGraw-Hill publications in psychology Clifford T Morgan consulting editor) \$6.00 1664

Contents: Introduction. The peripheral nervous mechanism. The central nervous system. Nerve psychology. The internal environment. The chemical senses. Spatial vision. Brightness vision. Color vision. Hearing. The skin senses. Somesthetic mechanisms. The motor system. Reflexes. Coordination. Emotion. Sleep and activity. Body needs. Instinctive behavior. Mating behavior. Conditioning. Sensory learning. Problem solving. Brain lesions in man. Behavior changes. Electrical activity and behavior. Bibliography and author index. Subject index.

Note: (1953d) An introductory survey that is comprehensive enough to make it useful as a specialist's reference book as well as a text for undergraduate college students. The emphasis is on the physiological mechanisms of normal behavior. Considerable new information is included on animal than on human psychology. Lists of references for further reading are appended to the individual chapters, and the "Bibliography and author index" serves as an extensive list of the related periodical literature. The work has extensively rewritten in this edition. It is intended for the same groups of readers as the original edition.

REYMER MARTIN LUTHER, editor

Feelings and emotions. The Moosheart Symposium in cooperation with the University of Chicago Anton J Carlson, president of honor Martin L. Reymert, general chairman James G Miller cochairman. Edited by Martin L. Reymert. New York McGraw-Hill Book Company Inc., 1950 603 p. illus. 23 cm. (McGraw-Hill publications in psychology Clifford T Morgan consulting editor) \$7.00 1665

Contents: Why feelings and emotions? by M. L. Reymert. I. Theory: psychophysiological approaches. Emotion as visceral action—an extension of Lange's theory by M. A. Wright. An anxiety theory of emotion, by M. R. Arnold. The conditioning of emotion, by R. F. Baskin. A biodynamic psychosomatic approach to the problems of feeling and emotion, by J. H. Mowbray. Emotion and activity by H. Piore. Theory of emotion in Soviet psychology by I. D. London. 2. Theory—psychological approaches. Emotional experience as necessary process—in Soviet, by S. I. Beck. Study of the integrative process—the importance for psychiatric theory by T. M. French. The emotion regarded as functional connections, by A. E. Michotte. The phenomenological approach to the problem of feelings and emotion, by F. J. J. van der Stoep. Reasonless and synthetic in recent psychology, by E. Klinger. A differential concept of feelings and emotion, by E. Klinger. 3. Reports of recent experiments: The study of patterns of emotional experience, by H. E. Jones. Experimental studies of emotional patterns under stress, by R. S. Mahan. Animal studies of emotion, by H. S. Liddell. Psychotic behavior produced in rat anxiety and Alexander's rats apparently by low level of food poisoning. Nervous and Alexander's rats apparently by low level of food poisoning. 4. C. P. Richter. Cognitive inhibitions during thought processes, by D. Katz. 5. Reviews integrating current experimental approaches. Central nervous mechanisms for the expression of emotion in animals, by P. Bard. Emotions and the electroencephalogram, by D. R. Mowbray. A new frontier—neuropsychological effects of emotion on the brain, by C. W. Dement. The experimental study of physiological processes, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 6. Emotion and psychological individuality, by J. G. Miller. 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Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 90. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 91. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 92. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 93. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 94. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 95. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 96. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 97. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 98. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 99. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams. 100. Emotion and psychological individuality, by J. G. Miller. Some implications of physiological individuality, by R. J. Williams.

expression, and symbolic function in the drawing of children, by L. van der Kaak. Chapters in emotional response with age, by J. Z. Achenbach. Meeting the emotional needs of older persons, by G. Lawton. viii. Emotions in social behavior: Emotional dimensions of group life, by D. Cartwright. Group behavior and the concept of emotion, by F. Farina. On the psychology of social groups as illustrated by their incidence of mental disorder, by S. Osgood. Emotion and the social order: problems in physiology, by T. Brown. The individual in the interpersonal picture, by G. Murphy. ix. Emotions in applied fields: Emotions in the factory, by W. V. Dillman. The emotional strain of the foreman in present-day industry, by C. B. Fisher. The affective function of language, by R. H. Thoresen. Feeling and emotion in art, by H. B. Laughlin. x. Methodology: The sample interview as research tool to study motivation, by L. Likert. The factorial study of attitudes, by C. E. Rort. The significance of Q techniques for the study of personality, by W. Stephenson. Epilogue, by A. J. Carlson. Name Index, Subject Index.

Note: An important volume which contains the papers originally presented at the second International Symposium on Feelings and Emotions held at Monroeville and Chicago, Illinois, October 28-30, 1948. The contributors include scientists from several nations and from several branches of science, notably physiology, medicine, psychology, and sociology as well as psychology.

PSYCHOLOGY OF PERSONALITY

ABT LAWRENCE EDWIN AND LEOPOLD BEL
LAK, editors

Projective psychology clinical approaches
to the total personality New York Alfred A.
Knopf 1950 485 p. illus. 22 cm. \$7.50 1666

Contents: Part I, The theoretical foundations of projective psychology: Introduction. On the problems of the concept of projection, by L. Belak. A theory of projective psychology, by L. E. Abt. Part II, Projective tests in clinical psychology: Introduction. The content analysis of the Rorschach protocol, by R. M. Lishansky. The projective techniques for the Rorschach protocol, by R. L. Mowrer. Group techniques for the Rorschach test, by M. R. Harver. The thematic apperception test in clinical use, by L. Belak. The semantic test, by J. Wertheim. Figures describing a projective test, by R. Levy. The Rorschach test, by S. K. Dool. The Bender visual motor Gestalt test, by A. G. Wohlmann. The sentence completion test, by J. M. Beck and E. Levy. Free-association as projective technique, by A. L. Kroll. Part III, Projective tests in nonclinical areas: Introduction. Projective techniques in business and industry, by D. Brown and A. Weber. Projective techniques in action research—diagnosing demands and measurement, by H. M. Proshansky. Index of names. Index of subjects.

Note: A treatise on the use of projective tests in clinical psychology and in certain nonclinical applications. More than four-fifths of the book is devoted to clinical applications and techniques. However the introductory chapters are valuable in providing theoretical background for projective tests. The various chapters were written particularly for this book and each one is essentially a condensed monograph on the phase of the subject named in its title. Each chapter is accompanied by literature references. The book is designed for graduate psychologists.

ADORNO THEODOR W AND OTHERS

The authoritarian personality by T W
Adorno Elise Frenkel-Brunswick, Daniel J
Levinson R. Nevitt Sanford in collaboration
with Betty Aron, Maria Hertz Levinson and
William Morrow New York Harper and
Brothers, 1950. 990 p. illus. 24 cm. (Studies
in prejudice, edited by Max Horkheimer and
Samuel H. Flowerman) \$7.50. 1667

Contents: (abridged) Part I, The measurement of ideological trends: The contrasting ideologies of two college men—a psychoanalytic view. The study of anti-Semitic ideology. The study of ethnocentric ideology. The measurement of higher ethnocentrism. The ethnocentrism in relation to intelligence and education. Part II, Personality as revealed through clinical interviews. Part III, Personality as revealed through projective material. Part IV, Qualitative studies of ideology: Prejudice in the interview material. Politics and economics in the interview material. Types and syndromes. Part V, Applications to individuals and to social groups: Genetic aspects of the authoritarian personality. Consistency and antisocialistic trends—a study of prison inmates. Psychological ill health in relation to pe-

ssential fascism—a study of psychiatric clinic patients. References. Index.

Note: In this work based on an intensive, original study experts in the fields of social theory and depth psychology content analysis, political sociology and projective testing have developed the conception of an "authoritarian type" of personality common to most of the nations of the West. While conceding that only small proportions of people fit this type in detail, the authors hold that the general conception is valuable for an understanding of minority group psychology, socio-economic conservatism, and acceptance of totalitarian ideologies. The "type" is defined in terms of patterns of characteristics isolated from group pencil-and-paper tests, projective devices and clinical interviews. It is expressed largely in terms of highly backgrounded (security in relation to parents) and cultural norms. Insufficient attention is given to some of the economic and other factors which are also relevant. The book is designed for graduate students in the field of psychology and graduate psychologists and sociologists.

ALLPORT, GORDON WILLARD

The nature of personality selected papers.
Cambridge, Mass. Addison-Wesley Press
Inc. 1950. 220 p. illus. 24 cm. \$3.00 1668

Contents: Allport; chapter 17 in *A handbook of social psychology* (edited by C. C. Marchess) 1933. The psychologist's frame of reference: *Psychological bulletin*, 1940, 37, 1-78. The functional summary of motives: *American journal of psychology* 1937, 50, 141-154. Motivation in personality; reply to Mr. Bertucci: *Psychological review*, 1940, 47, 133-134. The ego in contemporary psychology: *Psychological review*, 1943, 50, 451-478. The psychology of participation: *Psychological review*, 1945, 52, 111-132. Generalized ego construction in theories of personality: *British journal of educational psychology* 1946, 16, 97-108. Effects: secondary principles of learning: *Psychological review*, 1946, 53, 335-347. Psychoanalytic psychology as science: reply: *Psychological review*, 1946, 53, 133-135. Scientific method and human nature: *Psychological review*, 1947, 54, 183-192. Personality: problems for science or problems for art? *Revue de psychologie*, 1948, vol. 1, no. 4, 1-15. Bibliography.

Note: (1124) This book is made up of photographic reproductions of articles written by the author and published in various books and periodicals as noted in the table of contents. All of the articles pertain to the theory of personality which was evolved in the author's *Personality*, New York, 1937. Some of them were written explicitly in answer to critics who expressed disagreements and misgivings in print, and others represent expressions in theory or application provided by the author's own disquisitions with his previously stated postulates.

ANDERSON, HAROLD HOMER, AND GLADYS
L. ANDERSON editors

An introduction to projective techniques &
other devices for understanding the dynamics
of human behavior New York Prentice-
Hall, Inc., 1951 720 p. illus. 22 cm. \$9.00.
1669

Contents: Part I, Introduction. Human behavior and personality growth, by H. H. Anderson. Problems in the validation of projective techniques, by J. W. MacKenzie and R. D. Toddman. Principles of design in "projective" or "discovery" tests of personality, by R. B. Cattell. Part II, The Rorschach test. The Rorschach test: multidimensional test of personality, by R. J. Beck. Validating and experimental studies with the Rorschach method, by A. I. Robins. Part III, Variation of tests of personality mechanisms: The free-association test, by D. J. Van Leusen. The thematic apperception test, by R. E. Holt. The semantic apperception technique in the study of group and cultural problems, by W. R. Henry. Word association and sentence completion methods, by J. B. Rattier. The Rorschach picture-frustration test, by H. J. Clarke. The Bender visual motor Gestalt test, by F. Halpern. Deriving of the human figure. Methods of personality investigations, by E. Mowrer. Spectroscopic analysis of the human foot in childhood schizophrenia, by J. A. Montagna. Finger printing, by F. J. Mopell. Oculography, by R. Wallace. Experimental investigation of the methods of apperception, depth psychology, and the Rorschach test, by A. I. Robins. Part IV, Other projective methods, by W. W. Mace. Part V, General intelligence tests in personality appraisal: Interpretation of the Wechsler-Bellevue intelligence scale as personality appraisal, by M. Mayne and others. Qualitative aspects of the Stanford-Binet, by G. L. Anderson. Part VI, Projective techniques in therapy. The use of puppets as projective method in therapy, by A. G. Wohlmann.

Therapeutic use of play by J. C. Solomon. Psychodrama as a projective technique, by R. K. Kline and J. L. Kline. The use of projective techniques in the interpretation of hostility patterns, by D. M. Levy. Author index. Subject index.

Note: This book offers unusually complete coverage of all the various projective and quasi-projective devices currently being employed in some aspect of personality appraisal. Each chapter is written by one or more experts in the use of the particular device under consideration. Theoretical, research, and applied interests are represented in varying degrees by the different contributions. Primarily for graduate students in psychology and practicing psychologists and psychiatrists.

critical structure for further advances. The papers were published originally in *Journal of personality* Volume 14.

CATTELL, RAYMOND BERNARD

Personality, a systematic theoretical and factual study New York McGraw Hill Book Company, Inc., 1950 689 p. illus. 23 cm. (McGraw Hill publications in psychology Clifford T. Morgan, consulting editor) \$6.50.

1672

Contents: Describing personality through types or syndromes. Describing personality through traits. Measuring personality by the laboratory method. Measuring personality by self-rating and objective tests. Inherited, constitutional influences in personality. Psychobiological methods. The intricate structure of dynamic traits. The structure of attitude. The structure learned in the educational process. The self's integration, adaptation, and adjustment. Psychosomatic. Known functional patterns. Methodological errors in further research. Personality and the cultural context. The family as a social personality. Group dynamics and personality. Personality and specific social agents. The abnormal and maladjusted personality. Problems from the school, the street, the delinquent, and the criminal. The person. The person: Life stages in personality. Comparison to psychoanalytic, behaviorist, and other principles of personality structure. Some later developments.

Note: The initial definition of personality is given as that which permits prediction of what persons do and do not do. The definition is necessary because the principles of personality structure and function are not incorporated in previous work. From contact to conclusion this volume presents personality only by scientific standards such as apply in experimental psychology and biological psychology study with psychological concepts in a systematic manner. The treatment of motivation has been largely omitted. The emphasis is upon experimental and research rather than clinical views of personality. The book may be used as a text for a course or as a supplementary course in personality study and is especially useful for the student studying in psychology or appearing in other psychology as a problem. It covers the subject of personality study in detail, considering it as the natural law upon which all specialized sectors of psychology rest. A bibliography accompanies each chapter.

FERGUSON, LEONARD W.

Personality measurement. New York McGraw Hill Book Company Inc., 1952 457 p. illus. 24 cm. (McGraw Hill publications in psychology, Clifford T. Morgan, consulting editor) \$6.00.

1673

Contents (abbreviated): Fundamental concepts. Interest in empirical approach—a rational approach. Attitudes—on general approach. Personality: methodological approaches—methodological approach. Adjustment: diagnostic approaches—projective approaches. Biological: nonanalytical approaches—physiological approaches. Psychological: perceptual approaches—on empirical approach. Psychological: observational approaches—on empirical approach. Evaluation and summary. References. Index.

Note: The chief value of this book is its detailed analysis of the preparation of objective (quantitative) tests for personality study. The chief defect in the slight attention given to projective devices. It is designed for undergraduate majors or beginning graduate students in psychology but can be used with little effort by scientists and others lacking technical psychological training.

FRENCH, THOMAS MORTON

The integration of behavior. Volume 1: Basic postulates. Chicago The University of Chicago Press, 1952 272 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine, Lowell T. Coggeshall, Lester R. Dragstedt, Franklin C. McLean, C. Phillip Miller, Thomas Park, William H. Talliaferro) \$5.00.

1674

BLAKE, ROBERT R., AND OTHERS

Perception: an approach to personality. By Robert R. Blake and Glenn V. Ramsey in collaboration with Frank A. Beach and others. New York The Ronald Press Company 1951 442 p. illus. 23 cm. \$6.00.

1670

Contents: Perceptual processes as basic to an understanding of complex behavior. By R. R. Blake and others. Some structural factors in perception. By C. T. Morgan. Body chemistry and perception. By F. A. Beach. The role of learning in perception. By R. R. Blake. Personality dynamics and the process of perception. By R. R. Blake. Cultural and developmental factors in perception. By Wayne Distas. The role of language in the perceptual process. By A. Kozlowski. Trends in integrated theory of perception. By J. G. Miller. Perceptual organization and behavior pathways. By Norman Cantor. Perceptual organization in client-centered therapy. By C. R. Rogers. The personal world through perception. By G. S. Kline. Personality theory and perception. By E. Fromm-Reichmann. Index of names. Index of subjects.

Note: The advances being made in the perceptual approach to personality at three different research centers are combined in separate form in this work, which is constructed around the view that the study of perceptual activity provides a basic approach to an understanding of personality and interpersonal relations. The papers were delivered in substance at the 1949-1950 clinical psychology symposium held at the University of Texas. The editors have achieved better integration than is commonly true for such volumes. Outstanding reports of new research on perceptual tests indicating significant personality variables are accompanied by valuable theoretical articles, e.g., on the rapprochement of psychoanalytic and Gestalt theory in terms of perception. For graduate students of psychology and professional psychologists and psychiatrists.

BRUNER, JEROME SEYMOUR, AND DAVID KRECH, editors

Perception and personality: a symposium. Durham N. C. Duke University Press, 1950 266 p. illus. 24 cm. \$3.50.

1671

Contents: Some considerations concerning the relation between perception and cognition. By H. Wallach. Perception, cognition, and behavior. By J. Bruner and L. Postman. Where is the perceiver in perceptual theory? By G. S. Kline and H. A. Kline. Discussion. By G. S. Kline. Discussion. By G. Murphy. Research on perceptual theory. By D. Krech. Summary of the field theory of perception. By H. Werner and S. Wapner. Intelligence of ambiguity as an emotional and perceptual personality variable. By E. Fromm-Reichmann. The nature and importance of individual differences in perception. By R. A. White. Automatic discrimination without awareness: an interim report. By R. A. McCleary and R. L. Isaacson. Towards a reevaluation of the perception-motivation dichotomy. By J. E. Nebergall and H. Gellman. Task completion as function of organizational factors. By J. W. Terry. On the perception of locomotion. By J. S. Bruner and L. Postman. Perceptual values as determinants of perceptual structure. By E. McCleary and W. Boyce. The effect of need for achievement on recognition of non-related words. By D. C. McCleary and A. M. Liberman. Selective assimilation in auditory perception. By J. M. Vandenberg and R. R. Blake.

Note: The importance of the field of perception to the area where general experimental and clinical-social psychology meet is the main point around which this book has been constructed. The papers are written on graduate level and the book as a whole is addressed to graduate students and professional psychologists. It provides an authoritative survey of current trends in research, and offers theoretical

Contents (abridged) Section I. Our problem and our method. Section II. Systematic analysis of conscious-state assumptions: Patterns of motivation. Analysis of the post-erecting mechanism. Qualitative analysis of the integrative function. Dreams, hopes, wishes, and the modifying effect of an integrative field. Hypotheses and facts. Section III. Integration and deintegration of purposive behavior: Dreams and actual behavior. Case report. Interpretation. A clinical analysis of purposive behavior. Freud's theory of personality structure. Section IV. Effects of frustration. Reactions to obstacles. The nature and effects of frustration. Mitigation of frustration effects. The need for activity and substitution. Theories about the drives and about play. Experimental studies of frustration. Section V. Trends and goals. Two dream sequences considered. Changing patterns of hopes and fears. The learning process in psychoanalytic therapy. Section VI. The modifying influence of sleep. Section VII. Reactions of the integrative process. Appendix. Life history of patient. Life chart. Bibliography. Author index. Subject index.

Note: A detailed analysis of the thoughts and acts of one person during two years of psychoanalytic treatment. The volume is the first of five projected volumes on the subject of human behavior, the subjects of which are to analyze human behavior from elementary reaction patterns and then to show how these elementary reactions are combined and synthesized. In the first volume the author states what the conceptual method of motivation and insight, constructs pictures of the integrative apparatus and how it works, then checks this picture against the clinical data of the case history. The author assumes as working hypothesis that rational behavior, awareness, and dreams have much in common and that in irrational behavior are found fragments of the integrative mechanism which account for rational behavior.

GILBERT G M

The psychology of dictatorship based on an examination of the leaders of Nazi Germany New York The Ronald Press Company 1950 327 p. illus. 22 cm. \$4.00 1675

Contents: Part I. The genesis of dictatorship. The emergent pattern of dictatorship—a psychoanalytic view. Adolf Hitler and the Nazi movement. Part II. Isolated case studies: The revolutionaries. The diplomats. The ideologues. The state police. Part III. Psychological implications: Clinical and psychoanalytic aspects from social relationships. Dictatorship and adaptive social behavior. References and bibliography. Name index. Subject index.

Note: The author of this volume was asked to join the psychology at the preliminary trial of the Nazi war criminals in 1943-44, and then was able to make a thorough first-hand study of such German leaders as Goebbels, Himmler, von Ribbentrop and Hitler. This report of his findings, based on clinical study contact with the prisoners, offers revealing pictures of the character development, emotional conflicts, and social values of Hitler's chief lieutenants, and indirectly of Hitler himself. The author has also attempted to integrate some of the data of economics, sociology, politics and history as they throw light upon the rise of Nazism. Although written primarily for psychologists, the subject matter and the methodological style of the book make it of interest to readers outside this field.

HARSH CHARLES MAXFIELD AND H. G SCHMICKEL

Personality development and assessment. New York The Ronald Press Company 1950 518 p. illus. 24 cm. \$5.50 1676

Contents: Part I. Nature and development of personality: Introduction. Beginnings of personality. Infancy—the first two years. Infancy—sources of personal differentiation. Progress in early childhood. Childhood learning and socialization. Middle childhood—age to twelve. Middle childhood—expression of personality. Adolescence. Adolescent personality. Early adulthood. Adjustments to love and marriage in early adulthood. Middle and old age. Part II. Personality study in theory and practice: Theories of personality. The psychoanalytic movement. Cultural approach and systems. Assessment of personality. Questionnaires and trait organization. Integrative assessment. Integration in personality. Appendix: Theories of trait organization. References. Index of names. Index of subjects.

Note: A general study of personality from the viewpoint of psychology organized for use as a textbook. In the first part are traced the typical stages of personality development from infancy to old age. For each period there is a discussion of (1) factors influencing personality, (2) major problems and mechanisms of adjustment, (3) changes in personality, (4) changes in stability and learned adjustment patterns, (5) significance of the phase for later development, and (6) characteristic individual variations. The second part of the book is a survey of theories about personality and methods of assessing it.

By cross references in Part II the reader is reminded that theory and method must be related to the phenomena discussed in Part I. References are made throughout the text to the 22-page Bibliography.

HAVIGHURST, ROBERT JAMES, AND HILDA TABA

Adolescent character and personality. By Robert J Havighurst and Hilda Taba [of] The Committee on Human Development [of] the University of Chicago. In collaboration with Andrew W Brown [and others] New York John Wiley & Sons Inc., 1949 315 p. illus. 22 cm. \$4 50. 1677

Contents: Part I. Overview of the studies, by Robert J. Havighurst and H. Taba: The problem of studying character. The community setting. Subjects and procedures. Part 2. Group studies. Community studies in relation to character formation, by R. J. Havighurst and D. Mowbray. Social class and school adjustment in relation to character formation, by M. L. Wecker. The relation of the church to character formation, by D. Mowbray. The role of adults outside the family in character formation, by R. J. Havighurst and A. F. Kegan. Moral beliefs and the ability to apply them in making judgments of conduct, by H. Taba. The relation of values to character, by M. Durr and R. J. Havighurst. Personal-social adjustment and character formation, by F. A. Knapton. Part 3. Character and personality types, by M. Durr and others: Studies of individuals. The self-derivative person. The adaptive person. The submissive person. The defect person. The unadjusted person. Part 4. Suggestions for character education. Conclusions and implications, by R. J. Havighurst and others. Part 5. Methods of studying character and personality: Methods of studying character formation, by F. A. Knapton and M. L. Wecker. Methods of descriptive model studies, by W. L. Warner and others. Methods of studying affectual family relationships, by A. W. Reese and others. Methods of studying the role of adults outside the family, by R. J. Havighurst. Methods of studying moral beliefs, by H. Taba. Methods of studying values, by M. Durr and R. J. Havighurst. Methods of studying personal-social adjustment, by F. A. Knapton. Interviewing and miscellaneous methods, by D. Mowbray and R. J. Havighurst. Comparison of these studies with the Character Education Inquiry by R. L. Wecker. Index.

Note: A report of field work carried on in "Prairie City," small pseudonymously elementary city typical of adolescent communities, by the Committee on Human Development and Interpersonal Group Relationships of the biological and social sciences at the University of Chicago. The book covers character development in youths of this city who were 16 years of age when the study was begun. The final part of the volume records some of the tests and questionnaires that were used in the studies. The book is especially intended for social workers, teachers, and other persons who work with youth.

KRECH, DAVID AND GEORGE S KLEIN, ed

toys
Theoretical models and personality theory. Durham, North Carolina Duke University Press, 1952 142 p. illus. 24 cm. \$2.50 1678

Contents: The problem of personality and its theory by G. S. Klein and D. Krech. Theoretical models in psychology by L. von Bertalanffy. The role of sociological facts in psychology by D. O. Felt. The conceptual model of psychoanalysis, by D. Rapaport. Comments on theoretical models illustrated by the development of theory of conflict behavior, by M. E. Miller. The organization of personality by H. J. Kreuch. Biological intelligence, by W. C. Halstead. A theoretical model for personality studies, by A. Angell.

Note: In this volume the nine authors have written on various aspects of the problems of developing personality theory. More specifically they have considered the advantages and disadvantages of theoretical models in developing and stating personality theories. One of the authors (Kreuch) states the problem "If, then, we would construct a science of personality we must seek abstract models which will adequately represent our knowledge of existing facts and which at the same time will point forward to new facts which can verify readily or refute our theoretical models. The papers include contributions on general problems of conceptualization, special theoretical approaches, such as psychoanalysis and developmental approaches relevant for theory such as factor analysis. It is especially apparent as on basis of the *Journal of personality*, it is of value primarily to professional psychologists.

ings of psychoanalysts as well as the writings of experimental psychologists. The book is useful as a text in advanced college courses and as a reading guide for graduate psychologists who wish to explore this area of psychology.

YOUNG KIMBALL

Personality and problems of adjustment. Second edition. New York: Appleton-Century-Crofts Inc., 1952. 716 p. illus. 24 cm. \$5.00. 1685

Contents (abridged). Part I. The foundations of personality: Constitutional foundations of personality. Motivation and affective processes. Internal organization and interactional processes. The development of language in the individual. The role and function of the self. Symbolic behavior and the self. Typology—facts and theories. Theories of personality. Part II. Selected problems of personal adjustment. Identity and childhood. Adolescence and problems of physical and social maturation. Pupils' adjustment in school. Mental health of college students. Some problems of marriage and divorce. Psychology of modern women. Psychological problems involved with occupation. The psychology of later maturity and old age. Constitutional differences and adjustment. Some personality characteristics of delinquents and criminals. Neurotic and psychotic manifestations of personality. Glossary. Index of names. Index of subjects.

Note: (3142) This is a revision, without major changes, of widely used and valued textbook utilizing sociological approach to personality. While some new material has been added and some attention given to changes in the field of unconscious psychology, the selection is still broadly scope, social roles, and institutional practices as the major determinants of personality. Can be used by advanced undergraduates in psychology and sociology.

SOCIAL PSYCHOLOGY

ASCH SOLOMON E.

Social psychology. New York: Prentice-Hall, Inc., 1952. 646 p. 24 cm. 1686

Contents: Part I. Introductory. Doctrines of man. Part II. Organization in psychological society: Structural properties of experience and action. Psychological foundations and change. Part III. Human interaction. The transmission of man in society. The problem of human interaction. Social facts—the products of interaction. The expression of emotions. Knowledge of persons and groups. An introduction to group theory. Part IV. Social action. The ego, social interest, roles and values. The fact of culture and the problem of adjustment. Part V. Effects of group conditions on judgments and attitudes. The doctrine of suggestion. Structural factors in the understanding of emotions. Group forces in the modification and detection of judgments. The study of small groups. Opinions and attitudes—Our sociological steps. Foundations and attitudes. Some research on propaganda. Name index. Subject index.

Note: A re-examination and evaluation of the fundamental concepts and assumptions regarding the social nature of man, in terms of Gestalt theory. Rather than providing an exhaustive or ideological survey of the subject, the discussion centers around three aspects of behaviorism and psychoanalysis which relate directly to social psychology. The chapters dealing with the expression of emotions, the understanding of emotions, and the detection of judgments are based largely on the author's experimental studies in these fields. The author is Professor of Psychology at Swarthmore College.

BALLES ROBERT F.

Interaction process analysis: a method for the study of small groups. Cambridge Mass. Addison Wesley Press Inc., 1951. 203 p. illus. 23 cm. \$6.00. 1687

Contents: Description of the method. Theoretical framework. Training observers. Appraising observer reliability. Analysis and interpretation. Appendix: Definitions of the categories. Bibliography. Index.

Note: In this original work, method of studying or analyzing the social behavior of small groups, "social interactions" of small groups of people is described explicitly by "small groups" the author means groups ranging from two persons up to about twenty and including such types as children's play groups, adolescent groups, social clubs, teacher and pupil, and professional specialist and client. Essentially the method (technique in experimental or observational social psychology) it involves the use of an instrument called the interaction recorder or of substitute forms, and the rapid classification by trained observers of the acts of the group under study. The

observed acts are classified under one or more of twelve categories of interactions which are carefully explained in the first chapter.

BAUER, RAYMOND A.

The new man in Soviet psychology. Cambridge: Harvard University Press, 1952. 229 p. 22 cm. \$4.00. 1688

Contents: Foreword, by J. S. Bruner. The relationship of psychology to society. Two kinds of Marxism. The picture of social change. The historical psychology of the transition. The mechanistic model of personality. Consciousness comes to man. The turning point in applied psychology. The decree against psychology. The "new man" in Soviet psychology. Modern Soviet psychology. Psychology and the Soviet system. Notes. Index.

Note: This book is both a study of the effects of the Soviet political system upon psychology in Russia and a study of the concept of human nature as it is presented in the new Soviet psychology. It is penetrating and well documented. Although of primary interest to psychologists, it is written in a style that makes it readable also to educated people outside this profession.

BERKIN, FREDERICK KENNETH

Comments and cases on human relations. New York: Harper & Brothers, 1951. 500 p. illus. 22 cm. \$4.50. 1689

Contents (abridged). Part one: The setting. Words and things. Observing and thinking. Motivations and behavior. Social skills and group codes. Attitudes, prejudice, and racism. Reinforcing attitudes. Organization, control, and personality. Society and self. Part two: Appendix. Index of names. Index of subjects.

Note: A case method text designed for use in undergraduate college courses and adult education groups where considerable use is made of group discussion in teaching. In the first part which occupies about one-half of the space—the social pressures of contemporary society are described and analyzed, and social problems of adjustment are discussed. The second part of the book is devoted to narrative descriptions of 28 individual and group situations ranging from problems in the relationships of individuals to complex problems in labor-management relations. These "cases" are intended for discussion by the classes and other groups studying the use of the book, and they constitute its main feature. The author is Professor of Psychology in Colgate University.

BETTELHEIM, BRUNO AND MORRIS JANO-WITZ

Dynamics of prejudice. A psychological and sociological study of veterans. New York: Harper & Brothers, 1950. 227 p. illus. 24 cm. (Studies in prejudice, edited by Max Horkheimer and Samuel H. Flowerman. Sponsored by The American Jewish Committee. Social studies series, publication no. iv) \$3.50. 1690

Contents: Dynamic approach to intolerance. Patterns of attitude intolerance. Stereotyping the minority. Social status. The war experience. Anxiety and intolerance. Tolerance: function of control. Combating intolerance: self-help attitudes. Reflections, and applications for social action. Appendix: The interview sampling procedure. Comments on the interview situation. Defining the patterns of intolerance. Reliability of analytic procedures. Schedule of interview questions. Supplementary tables. Index.

Note: One of a series of volumes of which this is not merely to describe prejudice but to explain it in order to help in its eradication. In the view of the editors eradication of prejudice means re-education on the basis of scientific understanding. This volume, the connection between personality traits and prejudice among war veterans is examined with the purpose of discovering what there is in the psychology of the individual that renders him "prejudiced" or "unprejudiced." The group selected for intensive study was random sample of 150 male veterans of World War I who were residents of Chicago, including those who were officers and members of ethnic groups toward which hostility is most frequently directed, i.e., German, Irish, Chinese, Japanese, Mexicans. The work is of interest to psychologists and sociologists.

BRITT STEUART HENDERSON

Social psychology of modern life. Revised edition. New York: Rinehart & Company Inc., 1949. 703 p. illus. 24 cm. \$6.00. 1691

Contents (abridged) Part I, Social psychology and its methods. The social psychology of everyday life. The methods of social psychology. Part II, Biological and social foundations of behavior. Biological bases of human behavior. Social antecedents of behavior. The nature of culture. Part III, Some individual factors of social adjustment: Behavior traits and attitudes. The social psychology of language. The psychology of irrationality. Part IV, Behavior in the presence of others. Our judgments of other persons. The influence of other persons. Group behavior. Sex, dominance, and prestige. The psychology of leadership and leadership. Part V, The social psychology of institutions: The family. Education—the school. Religion—the church. Friendships and political parties. Occupational groups. Part VI, Social conflict: Delinquency patterns. Race differences. Prejudice against minority groups. Nationalism and war. Appendixes: Literature cited. List of textbooks on social psychology. Other bibliographical sources. Terminology. Author index. Subject index.

Note: (3109a) An inclusive work which is organized so that it may be used as a textbook in college courses but is at the same time written in a style that makes it available to journalists and interested laymen. The list of literature cited is more than 60 pages long. Since the text is typed it is convenient as a guide to the literature on many aspects of social psychology and sociology. This edition represents a very extensive revision both in the text and the bibliographies.

DEWEY, RICHARD, AND W J HUMBER

The development of human behavior New York The Macmillan Company 1951 762 p. illus. 24 cm. \$5.50 1692

Contents: Part I, A note on the function of theory: What is social psychology? Human nature? Interactive variables. Mechanisms of biological inheritance. Potentialities for human nature. Environment. The interactive process. Motivation in social behavior. Personality. Part II, The social psychology of age groups: Infancy and the preschool years. Childhood. Adolescence. Adulthood. Old age. Part III, Abnormal states, deviant roles, and personality: Who normal? The social psychology of minority status. Physiological-sociological inheritance. Cultural inheritance. Personality-social inheritance. Three outside of the law. Three outside our world. Part IV, Institutions, organizations, and personality: The school and personality. Religion and human nature. The job, the economic system, and the individual. Riots, mobs, and panic. Part V, Social psychology and ethics: The good society. Appendix. Index of names. Index of subjects.

Note: An introductory but substantial presentation of the principles of social psychology and of the behavior of groups to society interpreted in terms of social psychology. Much emphasis is placed on the importance of the scientific attitude and on the information to be accumulated by the techniques of scientific investigation. In the first part basic information on such pertinent topics as genetics, the structure of the nervous system, the influence of the social environment on human nature and human motivation is presented. In the remainder of the book the phenomena of behavior evidenced within groups and as interactions among groups are systematically discussed. The text is well documented with literature references, and the names of the authors of cited papers are brought out in the index of names. The book is suited to use as text in college courses offered to students who have completed basic courses in psychology. It has value also as a reference and orientation book for teachers, journalists, etc.

DOOB LEONARD WILLIAM

Social psychology an analysis of human behavior New York Henry Holt and Company 1952 583 p. 24 cm. \$5.00 1693

Contents: Part one, The individual in society: The social setting. The bases of behavior. Socialization and learning. Actions and reactions. Language. The methods of research. Part two, The behavior of groups: Ethnic groups. The individual and his group. Organized groups. Group norms. Leadership. Group psychology. Delinquency and crime. Part three, Social change: Values. Communication and the mass media. Education and re-education. Social conflicts. The diffusion of change. The problems and scope of social psychology. Index.

Note: Mainly this book is a survey of the problems with which social psychology must deal. There is considerable emphasis on unsolved problems. In many questions from significant sources, reports, and other materials of social psychology are included that the book can be used as an introductory guide to such literature. The author has made good use of important research studies of World War II and the years immediately after. Each of the three main parts contains selected bibliography. The book is useful chiefly as an introductory text at the college level for students with serious interests in social psychology and sociology.

FARIS, ROBERT E. LEE

Social psychology New York The Ronald Press Company, 1952 420 p. 23 cm. \$5.00. 1694

Contents: Human nature and the social order. Study of biological motivation. Motivation—the individual aspect—social aspect. The emergence of consciousness. The concept of consciousness and the emergence of self-consciousness in social interaction. Social determination of learning, perception, and memory. Social determination of attitudes and beliefs. The social factor in ability. The character of primary interaction. The differentiation of persons by various roles. The neurotic role. Personality development. Traits and problems in social psychology. Index of names. Index of subjects.

Note: A well-written introduction in which the main emphasis is on the significant results of the outstanding scientific investigations in recent decades of the phenomena of social behavior and of personality development in human society. No particular school of psychological thought is favored; however, the author is critical of the Freudian school. Frequent quotations from the writings of other authors are incorporated in the text, and there are numerous favorable citations of other writings. Although primarily text for college courses, the book is so written that it can be read with profit by mature lay readers not enrolled in formal courses.

LAPIERRE, RICHARD TRACY, AND PAUL R. FARNSWORTH

Social psychology Third edition. New York McGraw Hill Book Company, Inc., 1949 626 p. 24 cm. \$6.00 1695

Contents: Part I, The nature of the individual and of society: Social psychology. The psychological bases of human behavior. The sociological bases of human behavior. Part II, The process of socialization: Socialization. Types of human behavior. Over symbolic behavior—gesture—speech. Over nonsymbolic behavior. Over nonsymbolic behavior—symbolic action. The overt behavior. Part III, The human personality: Personality. Personality development. Personality status. Personality deviation. Personality and social traits. Part IV, Personality and social adjustment: The dynamics of social adjustment. Social development and maladjustment. The modern life, social change and maladjustment. Society as a system of adjustment. Psychologically abnormal modes of adjustment. Part V, Social interaction: The interactional sciences. Cultural situations. Interpersonal situations. Public abnormal situations. Appendix. Bibliography and author index. Subject index.

Note: (3117) A standard introductory textbook for use in college courses. In the present edition three new chapters have been added and many parts that have been carried over from the second edition have been extensively revised. The first-named author is Professor of Sociology and the second is Professor of Psychology in Stanford University.

LEBERT EDWIN MCCARTHY

Social pathology a systematic approach to the theory of sociopathic behavior New York McGraw Hill Book Company Inc., 1951 459 p. illus. 24 cm. (McGraw Hill series in sociology and anthropology Richard T. LaPlere, consulting editor) \$5.00. 1696

Contents: Part one, Theory: Introduction. Definition and delimitation. The social reaction. Sociopathic individuals. Part two, Deviations and deviants: Blindness and the blind. Speech defects and the speech defective. Racism and the race. Prejudice and the chronic prostitute. Crime and the criminal. Deviantness and the delinquent. Mental disorders. Appendix: Suggested outline to be followed in studying and writing the life history of a deviant. Glossary. Index.

Note: In this book an original theoretical structure for the study of sociopathic phenomena is presented and its application to specific sociopathological types, such as criminals and alcoholics, are discussed. The author's main purpose is to advance theory which will facilitate the integration of the study of social deviants with pathology rather than with the abnormal psychology of individuals. The book is potentially of greater interest to sociologists than to psychologists. However, it presents a point of view about which a specialist in abnormal psychology should be interested. The level of treatment topics previous study of psychology and sociology as the part of the reader.

LEWIN, KURT

Field theory in social science: selected theoretical papers. Edited by Dorwin Cartwright. A publication of the Research Center for Group Dynamics, University of Michigan. New York: Harper & Brothers, 1951. 346 p. illus. 22 cm. \$5.00 1697

Contents: Formulation and progress in psychology. Concepts in field theory. Defining the "field" at given time. Field theory and learning. Experiment, integration, and development. Field theory and experiment in social psychology. Problems of research in social psychology. Psychological ecology. Frontiers in group dynamics. Behavior and development as functions of the total situation. Appendix: Analysis of the concepts whole, differentiation, and unity. Index.

Note: All of the papers in this volume were previously published elsewhere. Though written and published separately they now form a reasonably coherent whole. The editor has unified them slightly by inserting duplicate sentences and occasionally writing transitional paragraphs. The book is a basic work both in social psychology and in sociology.

LENDESMITH, ALFRED RAY, AND ANSELIM L. STRAUSS

Social psychology. New York: The Dryden Press Inc. 1949. 549 p. illus. 22 cm. (The Dryden Press sociology publications, general editor Edwin H. Sutherland) \$5.00 1698

Contents: Part I, Language behavior: Sub-human behavior and its functions. Groups, language, and symbolic environments. Complex social functions. Man without symbols. Part II, Socialization: The child's acquisition of language. Rules, roles and the self. The child as adaptive behavior. The social basis of thought. Part III, Personality: Personal organization. Symbolic adaptation. Conflict and discrimination. Deviant behavior. Part IV, Race and race relations. Social behavior. Part V, Collective behavior: Social change. Mass behavior and shifting perspectives. Sociological and social factors in behavior. Index.

Note: The importance of language symbols and of the influence of social groups in the development and determination of individual behavior are the main themes in this outstanding text. The authors emphasize the importance of facts derived from investigations and experiments and they imply that the time for inductive theories in social psychology has not yet arrived. Although most of the text is based on other works in which the results of investigations are reported, the book is not a mere summary digest. The authors, who are members of the faculty of Indiana University, have performed valuable integrations and interpretations. Literature references and suggested reading lists are included.

MILLER, JAMES GRIER, editor

Experiments in social process: a symposium on social psychology. New York: McGraw-Hill Book Company Inc. 1950. 205 p. illus. 24 cm. (McGraw-Hill publications in psychology, Clifford T. Morgan, consulting editor) \$3.50. 1699

Contents: Scientific methodology in human relations, by D. O. Morgan. The strategy of neuropsychological analysis, by R. L. Apple. Laboratory experiments—the role of group heterogeneity, by L. Festinger. Laboratory research—psychological economics, by D. Cartwright. Survey techniques in the prediction of attitude, by D. Katz. Field experiments—changing group productivity, by J. R. P. French. A comparative study of national characteristics, by D. V. Moynihan and L. Wynn. The implications of learning theory for social psychology, by J. J. Ogburn. Social psychology and the sciences: a round-table discussion, by members of the symposium and L. Festinger. Index.

Note: Project presented at symposium held at the University of Chicago in November, 1947 have been collected in this volume together with two papers first published elsewhere. Except for the final chapter some of the papers are descriptions of recent study in the field of social psychology or discussions of methodology. The final chapter is a transcript of discussion rather than a formal paper. The editor is Chairman of the Department of Psychology of the University of Chicago.

NEWCOMB, THEODORE MEAD

Social psychology by Theodore M. Newcomb with the assistance of W. W. Charters, Jr. New York: The Dryden Press 1950. 690 p. illus. 24 cm. (The Dryden Press publications in interpersonal relations, general editor Theodore M. Newcomb) \$5.50. 1700

Contents: I. The nature and scope of social influences: Asking and answering questions about social influences. Uniformities and variations in social behavior. II. Motives and attitudes. Motivation in social behavior. Accepting positive and negative. The measurement of attitudes. Change and persistence of attitudes. III. Social norms and roles. Social norms and common attitudes. Role behavior and the self. IV. Individual personality: Processes of personality development. The patterning of self-other attitudes. Culture and personality. Individual adaptation to role prescriptions. Group membership. Effects upon individuals of membership in groups. Multiple group membership. Group conflict. Group identity. References. Index of names. Index of subjects.

Note: A college textbook written from a new standpoint by a professor, he has made use of the text in preliminary years in his teaching at the University of Michigan. Stressed is the reciprocal influence among human beings as related with one another. The author shows that individual persons come to act, perceive, think, and feel in certain patterns ways in relation to their environments. The total organization of persons psychologically is related to his environment is held to represent his personality. Throughout the book the author emphasizes the human part of the individual's environment, stating that many of the most important conditions which account for individual behavior are group conditions.

ROHEER, JOHN H., AND MUZAFER SHEKIF, editors

Social psychology at the crossroads, the University of Oklahoma lectures in social psychology. New York: Harper & Brothers, 1951. 437 p. 22 cm. \$4.00. 1701

Contents: Part one, Social psychology integrating individual and social approaches. Social psychological theory: Integrating individual and social approaches, by T. M. Newcomb. Part two, Biological basis and human behavior: Genetic vocabulary and human behavior, by F. R. Doolittle and L. H. Snyder. The "person" concept in the study of social organization, by G. C. Homans. Levels of social organization along the phylogenetic scale: Increasing aspect, by H. F. Harlow. Part three, Interaction in the cultural setting: On cultural and psychological theory, by M. J. Horowitz. Cultural factors in the structuring of perception, by A. L. Rado. The psychological habitat of Raymond Borch, by R. C. Barker and H. F. Wright. Part four, Basic psychological functions: The place of phenomenological analysis in social psychological theory, by R. S. Mack. Toward a general theory of cognition, by L. Postman. Social and individual and their implications for social psychology, by J. V. Neumann. Part five, Group structure and individual roles: Social groups and large organizations, by W. F. Floyd. Work and the self, by E. C. Hagen. Behavior and organization: Industrial studies, by C. H. Armstrong. Part six, Human behavior in the social psychological frame of reference: Conception of roles and up in contemporary psychology, by R. S. Sargent. Psychological problems of multiple group membership, by R. Hestley. A preliminary experimental study of inter-group relations, by M. Sherif. Names Index. Subject Index.

Note: This book contains a series of papers written by lecturers and delivered at a conference held in April, 1950. Together the papers give not only an account of the present status of social psychology but indicate the direction it must take if it is to make significant contribution to the understanding and improvement of human relations. A principal theme is that a new scheme of social psychology must consider and integrate biological and psychological factors stemming from the individual with the factors from his sociocultural surroundings. Areas where the need for research is crucial are indicated.

SARGENT, STEPHEN STANFIELD

Social psychology: an integrative interpretation. New York: The Ronald Press Company 1950. 519 p. illus. 21 cm. \$4.50. 1702

Contents: Part I, Socialization of the individual; Biological and social background. Culture and personality. Social influences on personality. Social learning—processes and products. Part II, The dynamics of social behavior. Motives. Frustration and mechanisms. Eye-development and ego-involvement. Part III, The patterning of social behavior. Socializing and socializing. Social interaction and social groups. Social roles. Leadership. The person in social situations. Part IV, Understanding social phenomena: Public opinion. Propaganda. Mass behavior. Social change and social movements. Group differences and conflicts. Applications in the area of social issues. Social psychology today and tomorrow. Name index. Subject index.

Note: An introductory text for use in college courses developed from a course in social psychology given at Harvard College, course on which the author (a psychologist) and sociologist, William W. Waller, collaborated. In presenting the relationships among individual and group behavior the author has integrated techniques and studies from the fields of psychology, sociology, anthropology and psychiatry. The extensive bibliographical material includes both citations of source articles and associated lists of supplementary readings.

SOCIAL SCIENCE RESEARCH COUNCIL

The American soldier Volume I, Adjust ment during Army life. By Samuel A. Stouffer, Edward A. Suchman, Leland C. DeViney, Shirley A. Star, Robin M. Williams, Jr. Princeton New Jersey Princeton University Press, 1949. 599 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. I) \$7.50 1703

Contents: How these volumes came to be produced. The old Army and the new. How personal adjustment varied in the Army—secondary consequences—by background characteristics—by type of experience in the Army. Social mobility in the Army. Job assignment and job satisfaction. Attitudes toward leadership and social control. The attitudes of soldiers toward the war. Negro soldiers.

——— **Volume II, Combat and its aftermath.** By Samuel A. Stouffer, Arthur A. Lumsdaine, Marion Harper Lumsdaine, Robin M. Williams, Jr., M. Brewster Smith, Irving L. Janis, Shirley A. Star, Leonard S. Cottrell, Jr. Princeton, New Jersey Princeton University Press, 1949. 675 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. II) \$7.50 1704

Contents: Attitudes before combat and behavior in combat. General characteristics of ground combat. Combat motivations among ground troops. Problems related to the control of fear in combat. The combat replacement. Attitudes of ground combat troops toward their enemies and the home front. Marine attitudes of combat flying personnel in the Air Corps. Objective factors related to marine attitudes in the aerial combat situation. Psychoneurotic symptoms in the Army. Problems of reaction and recurrence. The post system for replacement and discharge. The aftermath of hostilities. The soldier becomes a veteran. Appendix. Cross-listed index for volumes I and II.

——— **Experiments on mass communication.** By Carl I. Hovland, Arthur A. Lumsdaine, Fred D. Sheffield. Princeton, New Jersey Princeton University Press, 1949. 345 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. III) \$5.00. 1705

Contents: Introduction. Part I, Film evaluation studies: The experimental film. "The battle of Britain." General implications derived from the experimental film experiments. The author's evaluation of film. Experimental comparisons of alternative presentations. Effects of film on more of different intellectual ability. Part II, Studies on displaying controlled variation. Short time and long-term effects of an experimental film. The effects of presenting "one side" versus "both sides" in changing opinions on controversial subject. The effect of

an audience-participation technique in film script presentation. Summary and conclusion. Appendix: Measurement problems encountered. Index.

——— **Measurement and prediction.** By Samuel A. Stouffer, Louis Guttman, Edward A. Suchman, Paul F. Lazarsfeld, Shirley A. Star, John A. Clausen. Princeton, New Jersey Princeton University Press, 1950. 756 p. illus. 24 cm. (Social Science Research Council. Studies in social psychology in World War II. Vol. IV) \$10.00. 1706

Contents: An overview of the contributions to scaling and scale theory. The problem of attitude and opinion measurement. The basic scaling analysis. The scaling analysis based technique for scale analysis. The study of scaling analysis. Relations of scaling analysis to other techniques. The intensity component in attitude and opinion research. Problems of reliability. The present state of latent structure analysis. The interpretation and comparison of some latent structures. Two case studies in prediction—introductory comments. The scaling of psychometrics in the Army—technical development of tests. The scaling of psychometrics—comparison of psychiatric diagnoses and test scores at all selection stations. Studies of the positive phase of selection—a problem in prediction. Some notes on sampling and questionnaire administration by the Research Branch. Index.

Note: These volumes present the techniques and the findings of comprehensive, detailed study of the attitudes and adjustments of American soldiers to army life, training, and combat duty. They are the work of a group of sociologists and psychologists, and are based on data assembled between 1941 and 1945 by the Research Branch, Information and Education Division of the United States Army. The volumes one and two are largely reports of the findings of the Council regarding soldiers' attitudes. Volume three contains a collection of various training programs used by the Army including educational films. Volume four is devoted to descriptions and analysis of the techniques used by the Research Branch in collecting data. The series is a monumental contribution to the literature of social psychology. It is of value not only to psychologists who are concerned with military training and morale but also to social and applied psychologists in general.

SOCIETY FOR THE PSYCHOLOGICAL STUDY OF SOCIAL ISSUES

Readings in social psychology Revised edition. Prepared for the Committee on the Teaching of Social Psychology of the Society for the Psychological Study of Social Issues. Editorial committee: Guy E. Swanson [and others]. New York: Henry Holt and Company, 1952. 680 p. illus. 24 cm. \$5.25 1707

Contents: Part I, Approaches to the study of interaction: Issues in terms of interpersonal influences. Signs, symbols, and language in interpersonal communication. Transmuting influence through communications. Part II, The social patterning of interaction: Collective problem-solving: Collective problem-solving in small groups. Public opinion to collective problem-solving. Behavior in the absence of collective influences. Part III, Researching psychological processes: Social norms. Social roles. Structured role structures. Individual roles. Part IV, Some effects of interaction patterns on individual participants: Social influences on individual psychological processes. Attitudes and judgments as indicators of collective influences. Social influences on persistence and change of attitudes. The continuous socialization of the individual. Part V, Some social psychological approaches to public issues. Index.

Note: A carefully selected collection of papers and selections from books and papers illustrative of the "empirical foundations" which social psychology rests. It is used in conjunction with other courses in social psychology and is an excellent introduction to methods of investigation in the field. About half of the material in the present edition was added since the first edition was published in 1947.

SYMONDS, PERCIVAL MALLON
Dynamic psychology New York Appleton-Century-Crofts, Inc. 1949. 413 p. 24 cm.

(The Century psychology series, Richard M Elliott, editor) \$4.25 1708

Contents: Introduction. Drive. Frustration. Aggression. Perfectionism. Anxiety. Defense against anxiety. Phobias. Regression. Repression and the unconscious. Introversion and the superego. Projection. Identification. Conflict. Guilt and self-punishment. Sublimation. Compensation. Rationalization. Love and self-love. The ego and the self. Morality. Index.

Note: (1477) An undergraduate textbook based on the author's *The dynamics of human adjustment*, New York, 1946. Several chapters which appeared in the more advanced work have been adapted entirely and advanced material has been largely removed from these chapters which have been taken over. In addition, a new chapter entitled "The ego and the self" has been added. Questions for discussion and short lists of recommended reading also have been added.

THOMAS, WILLIAM ISAAC

Social behavior and personality. Contributions of W. I. Thomas to theory and social research. Edited by Edmund H. Volkart. New York: Social Science Research Council, 1951. 338 p. illus. 24 cm. \$3.00 1709

Contents: Introduction: Social behavior and the defined situation, by Edmund H. Volkart. Part I, Social sciences and social behavior: The need for social science. Methodological notes. The behaviorist picture and the situation. The methodology of behavior study. The role of methodology in the development of science. Research and the social process. The comparative study of cultures. Part II, Social behavior and personal dynamics: The four values. A theory of social personality. Personality and the content of the family. The construction of personality. Part III, Social behavior and cultural dynamics: The psychology of cultural change. The primary group and the activities of the situation. Social disorganization and reconstruction. The individualization of behavior. Reconsideration of the behaviorist. Part IV, Personality and culture: Outline of a program for the study of personality and culture. Bibliography of W. I. Thomas, compiled by A. Paul Hans. Biographical note. Index of names. Index of subjects.

Note: A posthumous volume reviewing and integrating the major contributions to sociological and socio-psychological theory and research of W. I. Thomas (1864-1947) and making available selection of his out-of-print and unpublished materials. Thomas was former president of the American Sociological Society. Two lectures of his posthumously in social science are mentioned by the editor as follows: "The goal of social science is to attain verifiable generalizations about human behavior. The end is to make available the kind of knowledge necessary and useful for the rational control of behavior."

CHILD STUDY

AMERICAN ASSOCIATION FOR GIFTED CHILDREN

The gifted child. Edited by Paul Wittey. Boston: D. C. Heath and Company, 1951. 338 p. illus. 23 cm. \$4.00. 1710

Contents: Progress in the education of the gifted, by P. Wittey. Identifying gifted children, by W. H. Murray and others. The Stanford studies of the gifted, by L. M. Termon and M. R. Oser. The contributions of Leta S. Stetter to the study of gifted children, by M. C. Burkhead. Some observations of highly gifted children, by N. Zarbach and others. The teacher of gifted children, by W. C. Ryan and others. Mental hygiene of gifted children, by R. Strong. Community recognition of the gifted, by H. Hobbs. Nature and extent of educational provisions for the gifted pupil, by P. Wittey. A high school of science for gifted students, by M. Minner. Search for talent in science, by W. Davis. Experiences with children talented in the arts, by A. Lally and L. Le Bonet. Administrative problems in educating gifted children, by L. Krueger and others. The education of gifted children and youth: summary and recommendations, by P. Wittey. Associated bibliography on gifted children, by E. H. Martine. Index.

Note: A book designed to inform non-specialists such as parents, teaching teachers, and members of school boards about current thought and problems in connection with specially gifted children. The various chapters were written for the book by recognized leaders in this field of education. The book is non-technical or non-scientific presentation rather than popularization. It includes some statistical

data and numerous literature references. The bibliography is comprehensive.

AMES LOUISE BATES, AND OTHERS

Child Rorschach responses: developmental trends from two to ten years. By Louise Bates Ames, Janet Learned, Ruth W. Métraux and Richard N. Walker. New York: Paul H. Hoeber Inc., 1952. 310 p. illus. 24 cm. \$7.50 1711

Contents: Part one: Review of literature. Subjects and methodology. Scoring. Statistical analysis. Ames. Determinants. Content. Additional test factors. Part two: Two years. Two and half years. Three years. Three and half years. Four years. Four and half years. Five years. Five and half years. Six years. Seven years. Eight years. Nine years. Ten years. Mental ability record. Clinical correlations. Summary. Bibliography. Index.

Note: In this work findings based upon studies of 650 children ranging in age from two to ten years of age show the changes which occur as normal responses at each age level in the Rorschach test. It is shown also that many types of Rorschach responses which suggest disturbances in the adult may be quite characteristic in the child. The system of scoring used by the authors is evaluated in the Rorschach tests is given in some detail. Methods of administering the tests to young children are mentioned but the reader who is looking for specific instructions in testing procedures is referred to standard text on the subject. This book is not an introductory manual on Rorschach procedures; familiarity on the part of the reader with one or more of the scoring systems is assumed. The authors are members of the staff of the Child Institute of Child Development.

BEITZLEKHEIM BRUNO

Love is not enough, the treatment of emotionally disturbed children. Glencoe, Illinois: The Free Press, 1950. 386 p. illus. 22 cm. \$4.50. 1712

Contents: The children. First encounter. Events in sequence. From dreams to waking. The in-between times. The challenge of learning. Food, the great reaction. Rest and play. Alone and in the group. The world outside. In the classroom. Bedtime. Publications on the school. Index.

Note: An informal account of the work and methods of the Santa Barbara Orthopsychic School at the University of California. Although it deals with child psychology the style is untechnical and the organization of the material is informal. The book can be read by anyone interested in the problems presented by delinquent, schizophrenic, or neurotic children. On the other hand, its content is substantial enough to make it valuable to child psychiatrists and others who work professionally with emotionally disturbed children.

ENGLISH HORACE BIDWELL

Child psychology. New York: Henry Holt and Company, 1951. 561 p. illus. 24 cm. \$4.75 1713

Contents: Part I, Introduction. Part II, Discipline and authority. Part III, Emotions. Part IV, Motivation. Part V, The importance of physical development. Part VI, The child's intellectual life. Part VII, Social development. Part VIII, The individual child. Appendix. Bibliography and index of authors. Index of subjects.

Note: An introductory text addressed to college students but useful also to educated parents and others with serious interests in the psychology of children. It is written in a lucid direct style, and although introductory in this branch of psychology it includes for interest of professional grade material. There is bibliography of over 300 references. The author is a member of the faculty of Ohio State University.

ERIKSON ERIK HOMBURGER

Childhood and society. New York: W. W. Norton & Company Inc., 1950. 397 p. illus. 22 cm. \$5.00 1714

Contents: Part one, Childhood and the modalities of social life. References and reliability in the case history. The theory of infantile sexuality. Part two, Childhood in two American towns: Boston and across the Pacific. Phobias along almost there. Part three,

The growth of the ego. Early ego failure—Jung, Freud and various. Eight stages of man. Part four: Youth and the evolution of identity: Reflections on the American identity. The legend of Hitler: childhood. The legend of Martin Gorky's youth. Conclusion—The fear of anxiety. Appendix. Index.

Notes. A collection of studies in which the social significance of childhood is interpreted in the terms of psychoanalysis. They range from detailed discussions of cases from the author's practice—in some of which the role of society is not too apparent—to anthropological studies of child training in certain American Indian tribes. The book is of about equal interest to students of cultural anthropology and to psychoanalysts interested in the psychiatric difficulties of children.

FAEGRE MARION ELLISON LYON

Your child from 6 to 12 Washington, D. C. Government Printing Office, 1949 141 p. illus. 23 cm. (United States Federal Security Agency Social Security Administration. Children's Bureau. Publication number 324) Paper \$0.20. 1715

Contents. What 6- to 12-year-olds are like. How family life is different today. What successful parent-child involves. How families influence their children's social adjustment. What play means in the life of child. How his preparation for independent living. Helping children to make the most of their mental ability. When home and school get together. Everyday problems. Fears, worries, frustrations, and their causes. Some special family concerns. Parents and hobbies. Children and money. Developing wholesome attitudes. Growth in middle childhood. Keeping your child healthy. The sick child. The community's services for your children.

Notes. A useful, non-technical guide for parents.

FIEDLER, MIRIAM FORSTER

Deaf children in a hearing world their education and adjustment. With a foreword by Mary Fisher Langmuir New York The Ronald Press Company 1952 320 p. illus. 21 cm. \$5.00 1716

Contents (abridged). Part I. Education of deaf and hard-of-hearing children. The teacher asks some questions. The research program. Part II. The children. Introduction. How we studied children. Part III. The parents discuss their problems. Social reactions with other children. What problems arise with children? Reactions of parents to their deaf children. Helping the child understand his handicap. Who is handicapped child? Parents as teachers of their children. What does child's hearing loss mean? Should child wear hearing aid? Part IV. Reports of teachers and teachers on the children's experiences. Part V. Conclusion. Summary remarks. Appendix. Sources of help and information for parents of deaf and hard-of-hearing children. Index of names. Index of subjects.

Notes. A discussion of the problem whether it is advisable to include deaf and hard-of-hearing children in schools and educational programs planned for boys and girls of normal hearing. It is a report of research conducted by the Vassar Summer Institute for Family and Community Living as part of a five-year program for the study of children with hearing difficulties. The author tells how a group of deaf children were recruited into groups with no hearing handicaps. The first of the five parts of the book explains the background of the study, what its definite aspects were, and how and by whom it was conducted. Part II tells about the children individually; charts are included to show the hearing ability of each child. Recent mothers of the children were in residence at the Institute while the investigation was in progress, and Part III records some of the discussions between parents and teachers of these children. The fourth and fifth parts give the reports of the mothers and teachers and the conclusion of the study.

GARRISON KARL CLAUDIUS

Growth and development. With a chapter by Florence M. Young and a chapter by Florence Heister New York Longmans Green and Co., 1952 559 p. illus. 22 cm. \$5.00 1717

Contents: Part I. Introduction. Studying child growth and development. Biological inheritance and prenatal development. The period of infancy. Some fundamental principles of growth. Part II. Aspects of growth: Physical growth and health. The development of motor skills. Emotional growth and mental intelligence—growth and mat-

uration. Language growth and development. Part III. Young. Growth in knowledge and understanding. Growth in creative expression. The development of social behavior and attitudes. By Florence Heister. Part IV. Personality development: Change of interests with age. Personality development—its nature and evaluation. Personality development—conflicts and adjustment. Mental hygiene of childhood. From childhood to adolescence. From adolescence to maturity. Appendix. Author Index. Subject Index.

Notes. In this book on the physical growth and mental development of children from infancy through adolescence fundamental knowledge is adequately presented and there is emphasis on those aspects of the subject which are of special concern to teachers. For example, stated reasons for adolescents leaving school before graduation are discussed. The book is based on a variety of research reports and other professional publications and them are cited in appropriate references. The author is Professor of Education in the University of Georgia.

GARRISON, KARL CLAUDIUS

The psychology of exceptional children. Revised edition. New York The Ronald Press Company 1950 517 p. illus. 21 cm. \$4.50 1718

Contents: Part I. Introduction. Our children—their needs and abilities. Fundamental principles of psychology. Part II. Studying the individual child. The child's physical development. The child's capacities, interests, and achievements. The child's personality. Part III. Mentally retarded children. Characteristics of the mentally retarded. Special disabilities. Curricular provisions for the mentally retarded. Social and personal development of the mentally handicapped. Part IV. Gifted children. Characteristics of the gifted. Psychology of special abilities. School provisions for the gifted. Physical and social development of the gifted. Part V. The physically handicapped child. The problem of defective vision. The child who is hard of hearing. The speech defective child. The crippled child. Children of abnormal vitality. Part VI. Emotionally and socially maladjusted children. Children with emotional or adjustment difficulties. Socially maladjusted and delinquent children. Nervous and psychoneurotic children. The hygiene of childhood. Appendix. Author Index. Subject Index.

Notes. (1142) A standard work which is used as text in college courses and also as guide for teachers, social workers, and parents groups. Its scope is children whose physical and emotional maladjustments set them apart in one way or another from the average child. The literature references are included in the form of footnotes and in the selected lists at the ends of chapters. In this edition the purposes and organization of the book are the same as in the first edition, but the incorporation of new case studies and the results of investigations conducted by the author and other workers in the field accounts for more than 160 additional pages.

GESELL ARNOLD

Infant development the embryology of early human behavior New York Harper & Brothers, 1952 108 p. illus. 24 cm. \$3.50 1719

Contents. Introduction—the concept of growth. Charting the actual growth cycle. The embryology of human behavior. The human action system in evolution. Eyes, hands, and brain. The total action system. The growth process. Individual differences and development. The diagnosis and supervision of development. A developmental Compendium. Appendixes. Illustrations of principles and methods of developmental diagnosis at 23 weeks level of maturity. Index.

Notes. The theme of this short book is "that there is no infant continuity in the prenatal and postnatal phases of human growth. It is in effect an outline, brought down to date, of the findings of the extensive researches of Dr. Gesell and his colleagues at the former Clinic of Child Development of Yale University and the latter Clinic of Child Development of Yale University. The book currently active Gesell Institute of Child Development. The human child is shown to be continuously developing organism in a fixed and precise cycle of physical, mental, and functional growth. A series of outstanding photographs of infant behavior—taken from the film "The embryology of development"—which show distinct phases in the growth cycle are included. The book can be read as preparation for viewing the film or independently as an orientation toward the current knowledge of the field.

HORROCKS JOHN E.

The psychology of adolescence. Boston. Houghton Mifflin Company Inc., 1951 614

p. illus. 23 cm. (Leonard Carmichael, consulting editor) \$4.50. 1720

Contents: Part one, The adolescent period: The nature of adolescence. Part two, The adolescent and his relation to others: The adolescent and his family. Social adjustment. Friendship and personal acceptability. Adolescent groups and group membership. Interpersonal relations. Part three, Development and growth: Intellectual development. Physical growth. Psychological and emotional development. Strength and motor abilities. Part four, Adolescent activities and interests: Nature and importance of interests and activities. Interests and the media of communication. Vocational interests and aptitudes. Attitudes and ideals. Part five, An overview of behavior: The basis and outcomes of adolescent behavior. The case of Mary Malheur—an example of adolescent behavior. Index of authors. Index of subjects.

Notes: A quite complete overview of the psychology of adolescence, somewhat perhaps in its discussion of development and growth, and less strong in its discussion of vocational interests and aptitudes. It is well written, readable, well documented, and the selection of source materials has been critically done.

HURLOCK, ELIZABETH BERGNER

Adolescent development. New York: McGraw-Hill Book Company, Inc., 1949. 566 p. illus. 23 cm. (McGraw-Hill publications in psychology. Clifford T. Morgan consulting editor) \$5.50. 1721

Contents: Adolescence: the transition age. Puberty changes. Body changes. Emotions in adolescence. Social behavior. Friends and love. Social interests. Personal interests. Emotional interests. Rhythms, moods and attitudes. Moral concepts and behavior. Sex interests and behavior. Personality. Meaning of maturity. Bibliography. Index.

Notes: A book summarizing knowledge concerning adolescent behavior, interests, and attitudes of boys and girls between the ages of 10 and 21 years. It may be used as a textbook in the field of adolescent psychology and also may serve to enlighten interested parents, teachers, social workers, and physicians concerning the physical, mental, and emotional development to be expected in the "teen age." The bibliography covers 22 pages, but only 24 references are to literature published since 1941.

HURLOCK, ELIZABETH BERGNER

Child development. Second edition. New York: McGraw-Hill Book Company, Inc., 1950. 669 p. illus. 23 cm. (McGraw-Hill publications in psychology. Clifford T. Morgan, consulting editor) \$5.50. 1722

Contents: The history of child psychology. Principles of development. Prenatal development. The newborn infant. Physical growth. Mental development. Development of speech. Emotional development. Social development. Play. Development of understanding. Moral development. Some childhood interests. Family relationships. Personality. Bibliography. Index.

Notes: (J1648) A well-organized and comprehensive study of the physical and psychological growth of the child from conception to puberty. The first section covers both childhood and adolescent years, but due to the rapid growth of literature in these fields this treatment has been limited to the childhood years proper. In spite of the dominance of the material on adolescence, the inclusion of new material accounts for almost 100 additional pages. An expanded bibliography covering 43 pages is included.

HURLOCK, ELIZABETH BERGNER

Child growth and development. New York: McGraw-Hill Book Company, Inc., 1949. 374 p. illus. 21 cm. \$4.00. 1723

Contents: Part one, How his begins: Proposing for the baby. The newborn baby. Facts about children. Part two, The child's growth: How child grows. Feeding and clothing the child. Physical care of the child. Learning body control. Learning to talk. Emotions and their control. Part three, The child's problems and habits: Manners and bedtime problems. The child's day. What to do about bad habits. Discipline, and bad habits. Tests for children. Play and playthings. Part four, The child as person: The child's consent. A place of his own. The child and his class. Personality building. Getting ready for school. Bibliography. List of visual aids. Index.

Notes: Mother of two children and member of the Psychology Department of the University of Pennsylvania, the author has written a practical, non-technical guide to the developmental pattern of the child. Problems likely to arise during the first five years of life are emphasized. Parents using the book will be enabled to compare the physical and mental growth of their children with the accepted norms. Suggestions are given for dealing with children who exhibit obvious deviations from the normal pattern. In addition to the general bibliography of both technical and non-technical books, there are supplementary reading lists at the end of each chapter for those who want more detailed information at some particular aspect. Other noteworthy features include a large listing of intelligence tests for the pre-school child, and a list of films which can be used to supplement the book in group instruction.

KENT, GRACE HELEN

Mental tests in clinics for children. New York: D. Van Nostrand Company, Inc., 1950. 180 p. 24 cm. (Textbooks on psychology, J. P. Gullford, general editor) \$2.45. 1724

Contents: Why children are referred to the clinic. The clinical examination. Sources of error in use of tests. The composite scale versus the battery. Language and performance tests, with and without timing. Use of unstandardized tests. The psychological report. Criteria for construction of clinical tests. Favorable scales and sub-tests. Home manufacture of materials. Appendix. Bibliography. Index.

Notes: A book based on extensive clinical experience. The author is critical of the use of the intelligence quotient (IQ) as sole measuring stick and argues for the use of a battery of tests that will provide several different and contrasting scores. Against the background of this conviction, she describes and evaluates various types of tests. Much practical information on the conducting of examinations is included. There is a bibliography of 170 references.

KUHLEN, RAYMOND G

The psychology of adolescent development (under the editorship of Gardner Murphy). New York: Harper and Brothers, 1952. 675 p. illus. 24 cm. \$5.00. 1725

Contents (abridged): Part I, Physical, intellectual, and cultural backgrounds of adolescent behavior: Physical development and health in adolescence. Adolescent growth in mental abilities. The American culture and adolescent personality. Changing behavior in adolescence as revealed in interest patterns. Part II, Areas of adolescent adjustment: Motivation, adjustment, and emotion in adolescence. Social development and adjustment. Adolescent identity—attitudes, character and morals. Life philosophy. Educational development of adolescents and adjustment to school. The development of vocational plans and work experience. Home relationships of adolescents and achievement of independence. Part III, The individual adolescent. Name Index. Subject Index.

Notes: Essentially a textbook for college undergraduate courses in adolescent psychology this monograph is useful also for reference. The thorough nature will assure with the care of knowledge necessary for a practical understanding of the field and will know how to apply this knowledge to practical situations. Beyond this, the student is provided with a handle for comprehending and evaluating research literature. The author believes that adolescence and its problems should be considered in the perspective of the developmental trends of childhood and of adult life, not as an independent, overly domestic entity. In its entirety the bibliography which closes each chapter lists over 400 books and journals, including publications of 1950. Charts and tables are used to present concrete data and to summarize information.

MERRY, FRIDMA KIRKFER AND RALPH VICKERS MERRY

The first two decades of life. A revision and extension of *From infancy to adolescence*. Under the editorship of Gardner Murphy. New York: Harper and Brothers, 1950. 600 p. illus. 22 cm. \$4.00. 1726

Contents: How we study children and adolescents. How we begin life. How we grow before and after birth. How our body structure and functions develop. How our motor abilities develop. How language develops. How interests, habits, and desires develop. How we learn. How we gain emotional maturity. How we develop socially. How personality

Notes (1112) This book complements and to some extent supplements the author's *Personality and its cultural pattern*. New York, 1937. Like the earlier work, it is a thoughtful analysis of the influences of the social environment upon the development of the individual personality in children, especially adolescents. The author's viewpoint (expressed in his own words) was "mainly the personality has the ability to shut out large factors of its environment and to transfer these parts that it takes in into suitable, understandable material. It is the part of the personality where this occurs that I call the 'screen'." He describes how personality is molded but offers no rapid conclusions about how the process should be stirred or changed. The treatment is on a professional level and the book is organized and written so as to make it understandable not only to psychiatrists but also to psychologists, social workers, and educated laymen.

REDL FEITZ, AND WILLIAM W WATTEN BERG

Mental hygiene in teaching Under the ed. torship of Willard B Spalding and Ernest R. Hilgard. New York Harcourt, Brace and Company 1951 454 p. 22 cm. \$3.75 1733

Contents Part A. Introduction. Food for thought. What is it all about. Part B. Some fundamental behavior reactions. Growth. Influences that shape lives. Some personality disorders. Adjustment, maturity and maturity. Part C. Classroom applications. Mental hygiene and school learning. Group life in the classroom. The psychological roles of teachers. Descriptive thinking in the classroom. Influences techniques. Some common classroom teacher's face. Children who need special help. Working with parents. Teachers' problems. Limitations of mental hygiene in education. Part E. Appendixes. Sources of additional help and information. Meaning of special terms. Index.

Notes Willard B. Spalding in modern dynamic concepts of personality development, the authors of this book have made a direct contribution to teachers who wish to approach children as individuals and to view the adjustment problems of children as real and significant. There is practically none of the technical terminology of clinical psychology. Instead, the book is written in the common language. The cases and situations described are typical of those encountered in public schools. The appendixes contain a guide to periodicals and pamphlets on mental hygiene, to audio-visual aids, and glossary of technical terms.

SCHNEIDER, ALEXANDER ALOYBIUS

The psychology of adolescence a factual and interpretive study of the conduct and personality of youth. Milwaukee The Bruce Publishing Company 1951 550 p. 23 cm. \$4.00. 1734

Contents (abridged) Part I. Introduction. Basic concepts of adolescent psychology. Part II. Physical development during adolescence. Part III. The nature and development of motivational factors. The determinants of human conduct. Maturity, youth, reward, and punishment. Part IV. The dynamics of adolescent conduct. Adolescent needs and desires. Psychological development during adolescence. Development of interests and attitudes. Development of values, ideals, and principles. Part V. The nature and development of temperament and character. Emotional development in adolescence. Moral and religious development during adolescence. Part VI. Social development in adolescence—growth in personality. Part VII. Summary and intellectual development during adolescence. Development of the psychological functions. The development of intelligence. Bibliography. Glossary. Index.

Notes A broad and readable account of the psychological development of adolescents, addressed to parents, teachers, and college students. Throughout the book emphasis is given to explanations of why young people behave as they do, rather than to descriptions of typical behavior patterns. The importance of social pressures in the development of personality is given considerable attention, and there are frequent mentions of fundamental studies and experiments in the sphere. Each chapter concludes with selected lists of readings. The latter are supplemented with 22 page bibliography.

SLAYTON, SAMUEL RICHARD

Child psychotherapy New York Columbia University Press, 1952 332 p. 24 cm. \$4.50 1735

Contents (abridged) Part one, Development: Normal needs in child development. Part two, Psychopathology: Pathogenic factors in childhood. The pathogenesis in interpersonal relations. Clinical approaches to child psychotherapy. Part three, Psychotherapy: The dynamics of psychotherapy. The psychoanalyst in reality and fantasy. Psychotherapy and therapeutic guidance of parents. Group psychotherapy with children. Treatment of severely ill and year-old child with organic deficiency (a case study). Index.

Notes Discussion of the principles and of the techniques of group treatment of emotionally disturbed and socially maladjusted children under twelve years of age form the main content of this treatise. However, it is not limited to descriptions of clinical procedures, nor is the primary emphasis upon them. Instead, the author presents rounded picture of the child's normal psychological needs and of the familial and social influences which divert these needs and lead to psychological maladjustment. The author is leader in the development of group psychotherapeutic techniques and the book is based on extensive experience with group therapy of children.

STRANG, RUTH

An introduction to child study Third edition. New York The Macmillan Company 1951 705 p. illus. 22 cm. \$4.75 1736

Contents (abridged) Part one, The roots of behavior: The baby at birth. Hereditary influences. Part two, Early preschool period—the first two years: How the baby learns. Child study and parent guidance. Part three, The preschool period—years three, four and five: How preschool children learn. Special problems of the later preschool period. The family's daily routine and the child's diet. Study and guidance of preschool children. Part four, The primary period: Development during years six, seven, and eight. Problems of the primary period. Child study and guidance. Part five, From the primary period to adolescence. Learning in the preadolescent period. Special problems of preadolescence. Part six, The adolescent years. Index of names. Index of subjects.

Notes (1113) An established book which is extremely well used as textbook for college courses, guide for study groups composed of parents, and reference manual for individual parents and teachers. It presents an overall survey of the subject with emphasis on the applied aspects. Such topics as how children act in eight years old learn are discussed at considerable length. The previous edition appeared in 1934. The present edition represents a very extensive revision.

SYMONDS, PERCIVAL MALLOD

Adolescent fantasy an investigation of the picture-story method of personality study New York Columbia University Press 1949 397 p. illus. 24 cm. \$6.00 1737

Contents Introduction. A review of literature on the thematic apperception test. The picture and the data of the study. Thematic analysis. Inventory of themes in adolescent fantasy. Themes on the picture-story test. Comparison of fantasy and character. Associations in the stories. Study of qualitative relationships. Final selection of pictures, with data on the history value of the pictures. Significance of fantasy in personality. Implications of fantasy for counseling and psychotherapy. Characteristics of adolescent fantasy. Case of Jack. Case of Jimmy. Summary and conclusions. Appendixes: Sketches of the forty cases. Personality traits of the forty cases as inferred from the stories and as observed in real life. Thematic analysis. Frequency of themes by picture. Correlation tables. Bibliography on the Thematic apperception test. Index.

Notes The findings of a systematic study of forty normal students equally divided as to sex and selected from junior and senior public schools are presented in this book. The main technique in the study was the use of the Thematic apperception test, and forty-two original pictures selected especially for the elicitation of adolescent fantasy were used in the test. These pictures are reproduced at the end of the book. The stories as told by the subjects are analyzed in detail according to accepted psychoanalytic concepts, and the author states "The picture of the adolescent which this study presents agrees closely with theoretically oriented analyses of the adolescent years. The thematic apperception test is shown to be a valuable research technique in the study of the personality of adolescents."

TEMPLIN, MILDRED C

The development of reasoning in children with normal and defective hearing Minneapolis The University of Minnesota Press, 1950. 143 p. illus. 24 cm. (University of Min-

Notes: The sixth in a series of volumes, begun in 1935, designed to aid workers in the fields of education, personnel administration, and psychology in locating and evaluating tests and books on testing. The aim is to include all commercially available tests published in English between October 1940 and December, 1947. Section one lists 641 tests in the above-mentioned fields, accompanied by rather lengthy reviews and appraisals of the tests. A similar arrangement is followed in the second section for 549 books on measurements and related topics. Each section includes extensive bibliographies relating to the test or book under discussion.

CRONBACH LEE JOSEPH

Essentials of psychological testing. Under the editorship of Gardner Murphy. New York: Harper & Brothers, 1949. 475 p. illus. 24 cm. \$5.00. 1745

Contents: Part I, Basic concepts: Who uses tests? Purpose and types of tests. Interpreting test scores. How to choose tests. How to give tests. Part II, Tests of ability. The Binet scale and its descendants. Mental diagnosis: the Wechsler test. Other tests of general ability. Factor analysis: the setting of abilities. Tests of special abilities. Problems in prediction: prognostic tests. Measures of achievement. Part III, Testing of typical performance: Problems and practices. Self-report techniques—personality. Self-report techniques—interests. The use of test results in counseling. Self-report techniques—attitudes. Observation of behavior in normal situations. Observation in test situations. Projective techniques. Appendixes: Reviews of studies of testing. Principal test publishers and distributors. Author index. Subject index.

Notes: A textbook for college students. The author recognizes that the sophistication of available tests makes it impossible for the student to study them all and consequently concentrates on the basic principles of testing to enter into the student may learn to choose tests wisely for particular needs and to be aware of the weaknesses of whatever tests he uses. At the same time he introduces the tests and validity and most widely cited in the literature of the subject and, by critical analysis of each test, provides material for the application of the underlying principles. A selective summary listing of tests is included in many of the chapters, with accompanying critical remarks from qualified reviewers. Suggestive readings and references appear at the conclusion of each chapter.

FREEMAN FRANK SAMUEL

Theory and practice of psychological testing. New York: Henry Holt and Company, 1950. 518 p. illus. 22 cm. \$4.10. 1746

Contents: Basic principles—Theoretical and clinical. Statistics in psychological testing. Descriptive and analysis of intelligence. The Binet scales. Revisions of the Binet-Simon scale. Social performance and performance scales. Nonverbal group scales of mental ability. Verbal and mixed group scales of mental ability. Scales for infants and preschool children. Appendix tests. Tests of educational achievement. Intelligence tests on clinical instruments. Personality inventories and related tests. Projective methods. Statistical tests. Applications and problems index.

Notes: Primarily descriptive treatment of the chief varieties of tests currently used for measuring the intelligence, personality and aptitudes of individuals. The book is intended for use as text by psychology students, social workers, personnel officers, and others employing psychological tests. Emphasis is placed on the purpose, method of application, and interpretation of each test, but material is also included on the principles and theories upon which the tests are based. Although an elementary knowledge of statistical methods is desirable, chapter on the subject is provided for students who lack this training.

GODENOUGH FLORENCE LAURA

Mental testing: its history principles and applications. New York: Rinehart & Company, Inc., 1949. 609 p. illus. 24 cm. \$5.00. 1747

Contents (abridged): Part I, Historical orientation: The model need for mental diagnosis. The intellectual roots of the early tests, 1847-1919. Later developments. Part II, Principles and methods: The history of testing theory upon test interpretation. The analysis and selection of test items. Units of measurement. Age standards and standards as interpretative measures. Means, medians, and percentages. Other devices for interpreting test scores. Testing the tests. Analysis of variance. Some questions of mental organization. Part III, Tests and scales. The conduct of an examination, with particular

reference to the testing of young or difficult children. The measurement of special talents and deficiencies. The measurement of motor development and motor skill. The measurement of interests and attitudes. The measurement of personal-social characteristics. Projective methods for the study of personality. Tests for vocational guidance. Part IV, Applications: Testing in schools and colleges. Testing in clinical practice. The use of tests in industry. Testing the Armed Forces. The use of tests in the study of group differences. Glossary. Bibliography. Author index. Subject index.

Notes: A general survey of the development and current status of mental testing and mental tests. Particular attention is paid to the history of testing, the currently advocated basic principles of testing, and to the chief types of tests. The book is useful to persons who want an inclusive and fairly detailed view of the subject, especially students and others who are concerned with the selection and administration of tests.

GRKENE EDWARD BARROWS

Measurements of human behavior. Revised edition. New York: The Odyssey Press, 1952. 790 p. illus. 21 cm. \$4.75. 1748

Contents: Part one, Achievement and aptitude. Introduction. Types of aptitudes. Characteristics of a good instrument. Construction of test items. Tests of early childhood. Individual tests of ability. Measures of educational achievement. Group tests of ability. Mechanical and motor tests. Tests of special aptitudes. Military development of tests and ratings. Part two, Elementary statistics. The interpretation of scores. Measures of relationship. Factorial analysis. Part three, Dynamic patterns: Personality—Dynamic theory and structure. Types of estimates. Drawing, painting, and handwriting. Reading and business. Play and games. Interests. Appendixes of statistics. Personality inventories. Research techniques. Observations of behavior. Appendixes: Publishers of tests and inventories. Classified list of tests and inventories. Index of authors. Subject index.

Notes: (1939) An established textbook and reference manual. It provides at the same time a comprehensive view of behavioral measurement techniques and descriptive analysis of wide variety of tests. The classified list of tests and inventories included as an appendix runs to 17 pages. The first edition was published in 1941. In the present edition the work has been increased, partially rewritten and widely revised so as to include material that has become available since 1941. Two completely new chapters deal with military contributions (the results of World War II) and personality theories. The author's lists in the appendixes also are new additions. The extensive bibliography which serves also as the author index, has been revised.

GULLIKSEN, HAROLD

Theory of mental tests. New York: John Wiley & Sons, Inc., 1950. 486 p. illus. 23 cm. (Wiley publications in psychology. Herbert S. Langfield, advisory editor) \$6.00. 1749

Contents (abridged): Basic concepts derived from definition of random error (Fisher's) coefficient derived from analysis of two scores. Errors of measurement, substitution, and prediction. Effect of test length on mean and variance. Effect of test length on reliability. Effect of test length on validity. Effect of group heterogeneity on test reliability. Correction for adverse selection in the three-variable case. Correction for nonrandom selection in the general case. A statistical criterion for parallel tests. Experimental methods of obtaining test reliability. Reliability estimated from test homogeneity. Power versus power tests. Methods of scoring tests. Methods of weighting and statistical prediction. Item analysis. Bibliography. Appendixes. Author index. Topic index.

Notes: The subject of this book is the mathematical theory and statistical methods used in interpreting psychological results. It is well-organized advanced textbook which can also serve as a reference book. The author who is Research Advisor for the Educational Testing Service of Princeton and Professor of Psychology at Princeton University points out that, although the book is primarily for those working in test development, the techniques are applicable in fields other than test construction, such as measurement of attitudes or opinions, appraisal of personality and clinical diagnosis. Illustrative computing diagrams are given for those fortunate enough to be changed into lower form. The book brings together the technical developments in test theory of the first half of the twentieth century and in its introduction goes back to the beginnings in the 1890's. There is comprehensive bibliography.

HARRIS, ROBERT E., AND OTHERS

Recent advances in diagnostic psychological testing, a critical summary. Springfield,

others who are interested in psychological testing in general or in specific tests.

PASCAL, GERALD R., AND BARBARA J SUTTELL

The Bender-Gestalt test quantification and validity for adults. Foreword by David G. Wright. New York: Grune & Stratton, 1951. 274 p. illus. 26 cm. \$6.50 1756

Contents: Part I, Quantification. Introduction. Administration and scoring. Reliability. Test standardization. Test validity. Part II, Clinical use of the Bender-Gestalt test. Introduction. The records of children and those with cerebral deficit. The Bender-Gestalt test and psychologic disorders. Appendix. Scoring manual. Index.

Notes: In this book critical examination of techniques in the administration of the Bender-Gestalt test to persons suffering from mental or nervous disease and of the validity of test results is combined with practical material on the clinical use of this test and the scoring of results. One of the conclusions of the authors is that "clinical judgment must be added to the quantitative score." However, more than half of the space in the book is occupied by the scoring manual and the series of scored records. The authors are associated with the Western Psychiatric Institute and Clinic. There is a three-page list of references.

ROSENZWEIG SAUL

Psychodiagnosis: an introduction to tests in the clinical practice of psychodynamics. With the collaboration of Kate Levine Logan. New York: Grune & Stratton, 1949. 380 p. illus. 22 cm. \$5.00 1757

Contents: Part I, Introduction: Clinical psychology as psychodiagnosis. Part II, The range of available instruments. Types of general intelligence. Measures of intellectual deviation. Vocational aptitude and interest tests. Personality inventories. Projective methods. Part III, The process of psychodiagnostic integration: The picture of the individual. Young women with academic neurosis. A child with problems of post-adolescent crisis. An adolescent with episodes of acute encephalitis. Part IV, A variety of applications: The province of clinical psychology. Psychiatric function in military service. Personality development. Evaluation of mental health. Intellectual capacity. Defect of function from neurological damage. Misdiagnosis in later maturity. Biennial comparison as an expression of personality. Analysis as picture of reaction. Unstable as an unconscious basis. Part V, The future: Psychodiagnosis as science. Bibliography. Index.

Notes: This book attempts to integrate the objective tests of cognitive function and of personality with projective devices. By use of case material in which several tests are compared and related to the author demonstrates the clinical use of personality studies in diagnosis. Includes picture of the individual. Primarily for graduate students and professional psychologists.

SHNEIDMAN EDWIN S

Thematic test analysis. With the collaboration of Walther Joel and Kenneth B. Little. Foreword by Henry A. Murray. New York: Grune & Stratton, 1951. 320 p. illus. 26 cm. \$8.75 1758

Contents: (abridged) Introduction. Part I, Thematic test data: Thematic apperception test. Part II, Techniques of thematic test analysis. By Margie Arnold, Betty Ann, Leopold Ballak, Leonard Katz, Randolph Fine, A. Arthur Hartman, Robert R. Holt, Walther Joel, David Kaplan, Seymour Klinebaum, Sheldon Klerman, Jose I. Lopez, Julius B. Koster, Shirley Jones, Helen D. Sargent, Percival M. Symonds, and Ralph K. White. Part III, Additional test data: Rorschach test, interpreted by Bruce Kaplan. Wechsler-Bellevue Adult Intelligence Scale. Kuder-Richardson-McNemar test. Personality inventory interpreted by Henry Grayson. Draw pictures, interpreted by Karen MacLever. Bender-Gestalt drawings, interpreted by Max L. Kott. Part IV, Individual data: Psychiatric case history abstract (V.A. Neuropsychiatric Hospital). Cases in neuropsychiatric hospital. Psychiatric follow-up interview. Part V, Synthesis and summary. Bibliography. Index.

Notes: This manual book is built around the detailed interpretation by individual psychologists of thematic apperception test (TAT) and complementary make picture story test (MAPIST)

administered to one mentally disturbed person who was unknown to the contributing psychologists. The various analyses of these two tests are supplemented by analytic interpretations of the responses to other tests by the same patient, by an abstract of the actual case history, and by summaries by the book's authors. The value of the book lies in its illustrations and discussions of the analytical methods used on the same test responses by various graduate psychologists.

SNYDER, FREDERIC WINKLER, AND N. H. PRONKO

Vision with spatial inversion. Wichita, Kan.: University of Wichita Press, 1952. 144 p. illus. 21 cm. \$2.50 1759

Contents: Studies in perception. The problem and general plan of the present study. The reading test. The Minnesota rate of magnification test. The Purdue pegboard test. The mirror-tracing test. Observations on extra-experimental activities. Theoretical discussion and summary. Bibliography. Appendix: Experimental diary.

Notes: Reported in this book are the results of an experiment planned to obtain answers to the following questions: "What occurs in perception when the visual field is inverted? What is the influence of past experience on performance during discrimination and following removal of the inverting lens?" During considerable part of the experiment the field of vision of the subject was both inverted and considerably restricted. Restrictions and inversions of the visual field were accomplished by system of lenses and test pairs of tables so as to constitute "monocular view-power telescopes." The effects of the disruption of established view-motor habits were studied by various tests of learning, some of which are termed in the chapter tables. The diary printed in the appendix was kept by the subject himself and states the effects as they appeared to him. In the last chapter of the book previous studies which resemble the present one and methodology of this study are discussed.

SUPER, DONALD EDWIN

Appraising vocational fitness by means of psychological tests. New York: Harper & Brothers, 1949. 727 p. 24 cm. \$6.50 1760

Contents: (abridged) Testing and diagnosis in vocational guidance. Testing and practice in vocational selection. Methods of test construction, administration, and validation. The nature of aptitudes and aptitude tests. Test administration and scoring. Intelligence. Predictive. Clinical aptitude—personal aptitude. Manual dexterity. Mechanical aptitude. Special vocational aptitudes. Academic judgment and artistic ability. Mental talents. Custom-built instruments for specific occupations. Standard batteries with norms for specific occupations. Measures of interests. Personality aptitudes, and temperament. Appraising individual vocational fitness. Using test results in counseling. Preparing reports of test results. Illustrative cases—data and counseling. Appendix: Statistical concepts. Prediction and probability. Test publishers and scoring services. Bibliography. Index.

Notes: A comprehensive treatise in which the theory of the use of tests in vocational counseling, the principles of test construction, techniques in test administration and scoring, and other general aspects are covered along with descriptions of individual tests. One of the most useful features is the evaluation of particular tests in the light of accumulated experience with them. References to the original publications of the research studies on which the evaluations are based are carefully given. The book is addressed to persons with professional interests in the use of tests in vocational aptitude measurement and vocational counseling. One feature illustrating the application and use of particular tests are included. The bibliography contains 955 references to books and periodicals.

TRAVERS ROBERT MORRIS WILLIAM

How to make achievement tests. New York: The Odyssey Press, 1950. 180 p. illus. 21 cm. \$2.25 1761

Contents: (abridged) Introduction. Measurement and evaluation. The expanding meaning of achievement. Systemic versus unsystematic evaluation procedures. Independence in the statement of educational goals. Steps in planning evaluation instruments. Studying the educational goals. Assigning weights to the goals. The selection of measuring techniques. Objective-type test questions: Origin of the objective test. The completion test. The true-false item. Rules for constructing multiple-choice test questions: The control of the difficulty of test questions. The assembly administration, and marking of the test. The significance of test scores. Some considerations in developing a grading system. The validity of achievement

FRYER, DOUGLAS HENRY AND EDWIN R. HENRY editors

Handbook of applied psychology Contributors Theodora M. Abel (and others) New York Rinehart & Company Inc., 1950 Two vol. 842 p. illus. 26 cm. \$15.00 1768

Contents (abridged): Part one Group living. Individual efficiency The individual adjusting to his environment. Techniques of personnel psychology Fields of personnel psychology selection and training. Industrial psychology Transportation. Business psychology Part two Educational psychology—techniques of educational adjustment. Fields of educational psychology Clinical psychology Fields of clinical psychology Forensic psychology The professions—contributions of applied psychology The arts—contributions of applied psychology Administration of psychological services. The professional psychologist. A selected and classified bibliography in applied psychology Index of contributors. Subject Index.

Note: A work composed of 115 papers especially written for it by outstanding American psychologists. It was prepared under the auspices of the American Association for Applied Psychology. The papers are signed with the names of the contributors. Each one is a concise statement of the aspect of applied psychology named in its title and concludes with a selected bibliography. The main bibliography although selected one, also runs to 30 closely printed pages.

GRAY JOHN STANLEY

Psychology in industry New York Mc Graw Hill Book Company Inc. 1952 401 p. illus. 24 cm. (McGraw Hill publications in psychology Clifford T Morgan consulting editor) \$5.00 1769

Contents: Introduction—Basic concepts in human engineering. Work analysis. Worker analysis. Job training. Methods of work. Wages and work setting. Wages and job evaluation. Methods and cost. Safety. Manpower and methods. Lighting and ventilation. Age of workers, by K. G. Gorman. The worker's morale, by K. G. Gorman. Employee adjustment, by K. G. Gorman. Appendix. Human Index. Subject Index.

Note: The inclusion of chapter on attitudes and rest is indicative of the scope of this personnel book. The author states any factor which affects the production efforts of workers is appropriately classified as industrial psychology. The level of treatment is introductory but the reader needs basic knowledge of psychology and also some acquaintance with industry. Although regarded as that it may be used as college text, the book is equally suitable as practical introduction to the field for men already employed in personnel work and those studying in industry. Literature on which statements in the text are based is cited in footnotes.

GRAY JOHN STANLEY editor

Psychology in use a textbook in applied psychology Second edition. New York American Book Company 1951 550 p. 23 cm. (American psychology series Henry E Garrett, general editor) \$5.00 1770

Contents: Principles of psychology available for use, by K. C. Gorman and M. Ziegler. Psychology in determining vocational aptitudes, by K. C. Gorman. Psychology in human life, by A. E. Jensen. Psychology in education, by J. R. Stowell. Psychology in industry, by E. K. Chaffin. Psychology in business, by H. W. Hargreaves. Psychology in law and its consequences, by C. A. Whitmer and G. I. Gorman. Psychology in sports, by T. W. Harrell. Psychology in clinical practice, by C. B. Rogers and M. I. Wada. Psychology in medicine, by T. Hunt. The psychology of influencing other people, by R. Rogers. Psychology in social reform, by G. W. Hartmann. Author Index. Subject Index.

Note: (1951) A college textbook which reflects view of the main fields of applied psychology. The authors of the various chapters are prominent contemporary psychologists. Generally speaking, each author outlines applications of psychology in his field, describes particular examples, and refers to related professional literature. In comparison to the first edition published in 1941, revisions appear in most of the chapters, but few of the changes are drastic. The chapter on psychology in medicine is new addition.

HARRELL, THOMAS WILLARD

Industrial psychology New York Rinehart & Company, Inc., 1950 462 p. 23 cm. \$4.50. 1771

Contents (abridged): Occupational information. Individual differences. Individual differences and their evaluation. Selection by interview and application blank. Personnel tests. Human engineering. Improving work methods. Training. Fatigue and conditions of work. Accidents prevention. Human relations. Motivation. Attitudes and job satisfaction. Mental hygiene and personnel counseling. Psychological aspects of labor relations. Supervision. Manpower index. Subject Index.

Note: An introductory but substantial text on the contributions that psychology can make in industry "to analyze the problems of labor management cooperation and to develop techniques which will facilitate such cooperation. The author firmly believes that psychology has an important place in developing scientific methods for the study of human behavior in industry. However, he does not deny the fact that industrial psychology is not yet fully developed science with universally accepted principles and methods. Many can studies are used as illustrative methods and techniques. Extensive bibliographies follow the several chapters. The author is Associate Professor of Psychology in the University of Illinois.

LAIRD, DONALD ANDERSON AND ELEANOR C. LAIRD

Practical business psychology New York The Gregg Publishing Company 1951 551 p. illus. 23 cm. \$6.00 1772

Contents (abridged): Part I. A new view of how psychology is used. Part II. Personnel efficiency: Ability to concentrate. More efficient reading and writing. Making memory more efficient. Efficient leaders and managers. Planning and organizing work. Matching jobs and people. Part III. Human relations and morale. The case of modern human relations. Motivation for success. Morale from self or from others. Part IV. Personality and emotional health. "Personnel issues" and psychological. Emotional maturity in business. How to conduct personality interview. Part V. Personnel leadership and group cooperation. The development of personnel leadership. The strategies of inspiring leadership. Motivation, responsibility and role playing in leadership. Group cooperation in business. Understanding group conflict. Index.

Note: Authors writing this book survey of business education and industrial training directors was made by the authors to establish what the book should contain and how the contents should be presented. The book is that practical business methods are emphasized, while psychological research methods and laboratory experiments are treated only briefly. A brief statement, "I got the word from one book," presents helpful tips for students to follow in their chapter-by-chapter study of the volume. The authors have assumed that readers have not taken courses in introductory psychology but that they have some acquaintance with business methods and procedures.

MATIER, NORMAN RAYMOND FREDERICK

Principles of human relations applications to management. New York John Wiley & Sons, Inc. 1952 474 p. illus. 24 cm. \$6.00. 1773

Contents: Introduction. A human relations training program. Discussion methods. Role playing. Role playing in large groups. Reactions to human relations training. Group decision procedures. Democratic experiences in action—case studies. The quality of group decisions as influenced by the discussion leader. Transcriptions of two problem-solving conferences. The supervisor's dealings with individuals. Reflective counseling. Bibliography Index.

Note: Although this is essentially a book on the application of psychology to common management problems in industry, psychological principles are introduced in descriptions and analyses of practical techniques. The main theme of the book is the importance of the principle of participation on the part of both management and employees in arriving at decisions that affect personnel relations. Discussion procedures in which employees with previous participation are described in detail, and are provided up with full account of actual cases. There are 80 pages of case studies and some sort of pages of transcriptions of interviews and conferences. The new techniques suggested have been tested in industry by the author, who is Professor of Psychology in the University of Michigan.

ing. Generalization. The effects of repetition. Emotional reinforcement. Punishing. Habits. Reaching habits. Reward and punishment. Skill. Trial and error in learning. Learning with and without intention. Perception and thought. Piagetian theories of learning. Hall's reinforcement theory. Skinner's system of behavior. Case in psychology. Conclusion. References. Index.

Note: (1243) Mainly this noted work is presentation of the association theory of learning, but related theories are described for comparison. The work is not textbook although it is often used as supplementary reading in college course. The first edition was published in 1915. Four new chapters have been added in this edition to cover the main developments in learning theory in the past two decades. Although written for persons with psychological interests in the psychology of learning, the style is not fearfully technical; hence the book is suitable for any educated person who has an interest in the subject.

GUTHRIE, EDWIN RAY, AND FRANCIS F POWERS

Educational psychology New York The Ronald Press Company 1950 530 p illus. 21 cm. (A volume in the Douglass series in education, edited by Harl R. Douglass) \$4.25

1780

Contents: (developed) Part I, Introduction: The challenge of modern education to the psychologist. The definition and meaning of educational psychology. Part II, Foundations of learning: Brightness and dullness. Perception and attention. Exercise and motivation. Physical basis of behavior and learning. Part III, Learning and its measurement: Viewpoints on the learning process. How children learn. How teaching guides learning. Psychology of individual learning and teaching. Individual differences. Enriching learning. Part IV, Impaired learning habits. Part V, Psychology of school levels, curricula, and methods. Part VI, Social adjustment through learning experiences. Part VII, Personal adjustment through learning experiences: How education affects personality. Mental hygiene. Part VIII, Psychological factors in school organization and administration. Psychology of discipline. Psychology of the guidance program. Psychology of extracurricular activities. The improvement of teaching. Selected references. Index.

Note: This introductory book on educational psychology is designed for the use of college students in any program for careers in education. The authors have covered not only the standard topics in educational psychology but also certain new areas of the subject, including creative activity and audio-visual learning, the psychological analysis of school levels, of the curriculum, of teaching procedures, and the psychological study of extracurricular activities and school leadership. Each chapter concludes with a group of about ten brief, practical questions and selected list of about 20 recent books and articles.

MCGROCH JOHN ALEXANDER

The psychology of human learning. Second edition revised by Arthur L. Irion. New York Longmans, Green and Co., 1952 596 p illus. 22 cm. \$5.00

1781

Contents: Concepts and methods. Some theoretical considerations. Conditioned response learning. Instinctual phenomena. The distribution of practice and reinforcement. Learning as function of motivation. The law of effect. The role of frequency. Transfer of training. Retention and forgetting. Learning as function

of the material learned and of certain modes of practice and presentation. Individual differences and learning. Concluding statement. Author index. Subject index.

Note: (1248) A textbook which is designed primarily for college students who are majoring in educational psychology. The treatment is advanced and the main emphasis is on theory. Long bibliographies are included. The author index of cited publications runs to 10 pages. Very substantial changes have been made in the present edition. These include more attention to animal learning and to its correlation with the current knowledge of human learning.

SKINNER CHARLES EDWARD, editor

Elementary educational psychology Second edition. New York Prentice-Hall, Inc., 1950 592 p illus. 22 cm. \$6.00.

1782

Contents: Part I, Introduction: The nature of educational psychology. Part II, Growth and development: Personality and behavior, by P. L. Boynton. Growth and development, by P. L. Boynton. Stages in human brain: infancy, childhood, adolescence, maturity, and senescence, by P. F. Powers. Part III, Mental abilities and individual differences: Intelligence and aptitude: Their nature, development, and measurement, by P. A. Witty. Individual differences and school achievement, by J. W. Wrigglesworth. Part IV, The learning process and evaluation of learning outcomes: General aspects of learning, by P. F. Powers. The dynamics of learning, by P. L. Boynton. Transfer of training, by P. L. Boynton. Perceptual motor and nonverbal learning, by J. W. Wrigglesworth. Reflective thinking and problem-solving, by P. L. Boynton. Creative thinking and learning, by P. L. Boynton. Psychology of the school subject, by J. W. Wrigglesworth. Approaches the results of learning, by J. W. Wrigglesworth. Part V, Personality adjustment, and guidance: Knowledge and adjustment, by W. C. Ryan. Social adjustment and conduct disorders, by W. C. Ryan. Adjustment and guidance of the exceptional child, by W. C. Ryan. Mental hygiene, by W. C. Ryan. The nature and techniques of guidance, by P. F. Powers. Index of subjects. Index of names.

Note: (1249) An established introductory text for college students in any program for careers in teaching. Modern ideas and methods are emphasized. The pattern of the book is the same as in the first edition, but the several authors have brought their chapters and the accompanying references both up to the date of the revision.

TILTON, JOHN WARREN

An educational psychology of learning. New York The Macmillan Company 1951 248 p illus. 22 cm. \$3.50

1783

Contents: Part I, An introduction to learning theory: The general problem. Explanation in terms of elements? Explanation in terms of your experience? Explanation in terms of affect? Part II, The learning process: A general description of learning. Learning in relation to problem solving. Learning as related to practice. Learning and adjustment. Part III, The individual learner: The measurement of achievement. Measures of ability to learn. Specialization of ability to learn. "Mature" ability to learn. Personality Part IV, Some implications for education: Education and the psychology of learning. For more efficient learning. Index of names. Subject index.

Note: This work is not textbook or an encyclopedic reference book of the subject, but it rather an original presentation of the nature of the learning process. The author is Professor of Educational Psychology in Yale University.

ENGINEERING

GENERAL

CHRISTMAN RUTH C. editor

Industrial science, present and future. A collection of papers presented at the installation of the Section on Industrial Science of the AAAS at the Philadelphia meeting on December 28-30 1951. Arranged by Allen T. Bonnell. Edited by Ruth C. Christman. Washington: American Association for the Advancement of Science, 1952. 152 p. 23 cm. Paper \$2.00 1784

Contents. Bridging the gap, by R. R. Weisberg. Industrial sciences today. The petroleum industry by E. E. Wilson. The steel industry by H. G. Rastbiller. The communications industry by J. S. Pisk. The chemical industry by M. A. Rapoport. The pharmaceutical industry by E. H. Velicer. Industrial sciences tomorrow. Horizons for industrial sciences from the viewpoint of the consultant, by L. M. Olschewski. Horizons for industrial sciences from the viewpoint of the educator, by J. G. Rastbiller. Horizons for industrial sciences from the viewpoint of the research biologist, by F. C. Cronin. Horizons for industrial sciences from the viewpoint of government, by R. R. Weisberg. The contributions of industry to government, by C. L. Dierkes. The contributions of industry to consumer health, by C. L. Dierkes. The new industry and the community, by A. Henry. Industrial sciences and their public relations, by J. G. Rastbiller.

Note. In the papers collected here, some of the history, achievements, and problems and the outlook for the future of subnational science are outlined by the term "industrial science." The authors collectively have designated not only research on the past of industry but also such other aspects as "industry" relations to scientific education, and relations between government research and industrial research. The papers are addressed to the general public rather than to specialists; however, they are of interest to administrators who are concerned with the large-scale social aspects of science.

DR VAUGHN LOUIS

German English technical and engineering
dictionary New York McGraw Hill Book
Company Inc. 1950 928 p. 23 cm. \$20.00
1785

Note: The English equivalents of approximately 125,000 German scientific terms are given in this reference book. A considerable number of the terms are derived from private glossaries compiled by professional translators and research workers from the Soviet Institute. Many of them have not appeared in other dictionaries. A feature that adds much to the book and increases its usefulness is the inclusion of a large number of combinations and variants. The main text is supplemented by 34 pages of abbreviations with their German counterparts and English equivalents.

ESHRACH OVED WALLACK

Handbook of engineering fundamentals. Prepared by a staff of specialists under the editorship of Ovid W Eshbach Second edition. New York John Wiley & Sons Inc., 1952 1394 p. illus. 22 cm. \$10.00 1786

Contents (continued) Mathematical and physical tables. Miscellaneous. Miscellaneous. Miscellaneous. Mechanics of rigid bodies. Mechanics of deformable bodies. Mechanics of incompressible fluids. Aerodynamics. Engineering thermodynamics. Electrical and magnetic. Radiative, light, and acoustics. Chemistry. Metallic materials. Non-metallic materials. Engineering law index.

Note (1240) A comprehensive handbook of fundamental theories, data, and formulas essential to engineering practice. It is designed

for use by engineers in all branches of engineering. The authors given above are the titles of the sections. In most instances the section is composed of several subsections, each one of which is the work of an author or whose names is given. Bibliographies accompany the subsections, but the index is all inclusive. The first volume appeared in 1916. In the new edition some of the sections have been reorganized and all of those retained in some extent a few sections have been completely rewritten.

FRUCH, JAMES KIP

Engineering and Western civilization. New York: McGraw Hill Book Company, Inc., 1951. 397 p. illus. 24 cm. \$5.50. 1787

Civilization (abstract): Ancient civilization. The Middle Ages and the Renaissance. The age of French leadership. Early industrial engineering. The Victorian era. American engineering in the 19th century. The new engineering. Modern engineering. Engineering and Western civilization. Engineering and economic change. Engineering and the world. The distribution of technological power. Technological change and capital goods. Engineering and research. Conclusion. Bibliography. Index.

Notes: In this unique history of engineering Dr. Ficht uses his thesis in engineering and technological advances have caused a greater influence on the growth of modern institutions than the political, economic, or social forces. Except for the last survey of the growth of engineering from ancient times to the future, the author deals mainly with the part played by the engineer in the evolution of the United States of America. The book is intended primarily for use in introductory engineering courses, but it can be recommended also for general reading. It includes tables and sections, somewhat abbreviated.

FORBES, ROBERT JAMES

Man the maker, a history of technology and engineering. New York Henry Schuman, 1950 355 p. illus. 21 cm. \$4.00. 1788

c. The great expansion of the ancient Near East (3000-400 B.C.).
Greece and Rome (800 B.C.-400 A.D.).
Classical heritage (A.D. 400-1700).
Technology and Geography (A.D. 400-1800).
New wine into old bottles (1400-1750).
Steam comes of age (1750-1830).
The conquest of distance (1750-1900).
Fuel and electricity (1830-1940).
Technology and progress. Modernity.
Nuclear.

Note. This history of technology is rather compactly written and is done mostly upon numerous subjects which are not accorded space in larger works. Examples are structures, bicycles, sailboats, and sports, plastic rubbers. About half of the space is devoted to the progress of technology before 1750. In the latter part of the book, where the stages readily become crowded, the author found space for lack of time, to cite an example, is covered in less than five pages.

HERTZ DAVID BENDEL

The theory and practice of industrial research. New York: McGraw Hill Book Company Inc., 1950. 385 p. Illus. 23 cm. (McGraw Hill engineering management series, R. T. Livingston consulting editor) \$3.50. 1759

Contents: Introduction. The country economy and research. Methods of production in research. The method of research. The background of research in industry. Research projects and proposals. The organization of research personnel. Research management and administration of research projects. Research results and publications. Internal relationships in research projects. Formal and informal research reports. Research facilities—laboratory design, research tools, and auxiliary services. Patent policy in research. External relationships of the research department. Research results. Index.

Note: The first chapters contain a careful analysis of the nature and general problems of research; then the author turns his attention to the practical organization and administration of research in industry in both parts he has something worthwhile to say. The work is intended for use as a textbook in courses offered to advanced science and engineering students, but it is of interest to graduate workers in industrial research and corporation executives as well. There is good bibliography.

KEREKES, FRANK AND ROBLEY WINFREY
Report preparation including correspondence and technical writing. Second edition. Ames: The Iowa State College Press, 1951. 448 p. illus. 29 cm. \$7.50 1790

Contents (abridged): Reports. Planning the investigation and report. Collection of information. Mechanics of style. Format and management. Tabular presentation. Preparation of illustrations. Effective writing. Writing the first draft and revising. Correspondence. Letter reports and short reports. Formal reports. Magazine feature writing and technical reports. Oral presentation of reports and technical papers. Letter of application. Editing, copyediting and proof-reading. Appendix. Index.

Note: The authors of this book have taken plenty of time and have produced a full book that will be used not only in instruction but after graduation as a reference book. Numerous full-size examples of charts, graphs, business letters, employment applications, sample title pages and other illustrations of forms much needed by scientists and engineers in their work after graduation are included. The accompanying discussions are factual and practical.

LEMECKE, KURT FRIEDRICH, editor
German English technical dictionary of aeronautics — rocketry — space navigation — atomic physics — higher mathematics — jet engines — turbines — hydraulics — petroleum industry — civil and mechanical engineering — ballistics — electronics — radio — radar — aerophotography — television — infrared research — communication — meteorology — topography — aeromedicine. Based on data compiled by the U S Air Force. New York: S. F. Vannl 1951 2 v. 28 cm. \$35.00. 1791

Note: The terms for this dictionary and the English equivalents were compiled by the Dictionary Unit which was first associated with the United States Strategic Air Force in Europe and later was transferred to the Air Documents Research Center in Dayton, Ohio. Definitions are short, and no examples of usage are included. The work's merit lies in the inclusion of many terms in aeronautics and related fields which are not to be found in other dictionaries. Another edition of the work was previously made available to government agencies and to contractors of the United States Armed Forces, but this is the first edition to be offered generally.

McCLOY, SHIRLEY T
French inventions of the eighteenth century. Lexington University of Kentucky Press, 1952 212 p. illus. 25 cm. \$4.50 1792

Contents: The balloon. Steam transportation. The telegraph. Lighting. Papermaking. Chemical reactions. Textiles. Astronauts. Other mechanical devices. Military inventions. Medicine and surgery. Patents and encouragement. Conclusion. Bibliography. Index.

Note: A readable, well-documented survey of French inventive activity during the eighteenth century. Although individual inventors are described and illustrated, the main theme is the strong current of activity. This is reflected in the social and political background. Inventors are named and there are occasional remarks on individual personalities and fortunes, but the biographical aspect is not emphasized. There are many scholarly footnotes and an extensive bibliography.

MEES CHARLES EDWARD KENNETH AND JOHN A. LEEMAKERS

The organization of industrial scientific research. Second edition. New York: McGraw-

Hill Book Company Inc., 1950 838 p. 24 cm. \$6.50 1793

Contents (abridged): Part I, General principles: The development of scientific organization. Industrial research. Part II, Agencies for the conduct of industrial research: Government laboratories. Associations for industrial research. Technological research institutes. Some large industrial laboratories. Part III, The organization and operation of industrial laboratories: The position of the laboratory in the company. The direction of research. The transfer of research to production. Reports, patents, publications, and library. The financial administration of the laboratory. The design of laboratory for specific industry. Index.

Note: This book deals chiefly with the setting up and administration of research laboratories in industrial corporations. The author states is associated with the Eastman Kodak Company and has the title Vice-president in Charge of Research. His colleagues in Assistant Director of the same company's research laboratory. However, they have taken a general view of the subject and have drawn liberally from the experiences of other companies. The work is of interest both to staff members of industrial laboratories and to executive officers of corporations who are concerned with general company policy. The first edition, written by the author rather alone, was published in 1920. This edition is largely new even though the viewpoint is the same.

NATIONAL RESEARCH COUNCIL

Industrial research laboratories of the United States including consulting research laboratories. Ninth edition, 1950. Compiled by Myron J. Rand, with the assistance of Winnie Frances Yount, Roy F. Newkirk [and] Emmet E. Noland. Washington, D. C. Published by the National Research Council, National Academy of Sciences, 1950 444 p. 26 cm. (National Research Council. Bulletin. No. 120 November 1950) 1794

Contents: List of laboratories. Appendixes: Government laboratories. Universities and colleges offering research service to industry. Indexes: Geographical distribution of laboratories. Subject index to research activities.

Note: (1948) The standard directory for the United States of America of research laboratories associated by manufacturing and other commercial companies. In compiling this biennial publication of the term "research" has been adapted so as to cover the development of industrial processes, methods, equipment, and production in broad sense. However, laboratories devoted solely to production control and commercial testing are not included. The names of the company and the laboratory address, names of the president, the executive officers in charge of research, the aims of the research staff, the field or fields of research activity and the number of volumes in the library if any are given for each entry. The number of laboratories listed in the present edition is 2343 which compares with 2448 in the preceding edition. In addition to the descriptions added all those carried over have been revised.

NELSON J. RALPH

Writing the technical report. Third edition. New York: McGraw-Hill Book Company, Inc. 1952 356 p. illus. 24 cm. \$4.50. 1795

Contents (abridged): Part I, The design of the report. Part II, Some suggestions as to the form and style of the report. Part III, The criticism of the report. Part IV, Summary of basic principles. Part V, Manual for class use. Index.

Note: In this text for both practicing and student engineers emphasis is placed on the basic principles and procedures which should be followed in preparing technical reports, rather than on the form of specific types of reports. Thus, although numerous sample reports are included, the book is not intended to serve as a form or style manual. The major changes in this edition are found in the later part of the volume, where the basic principles previously discussed at length are now summarized and where an outlined course in report writing has been added.

OSBURN WILLIAM FIELDING editor

Technology and international relations. Chicago: The University of Chicago Press, 1949 201 p. illus. 23 cm. \$4.00 1796

Expansion sheet to conformal mapping, by G. S. S. Bibliography of numerical methods in conformal mapping, by W. S. S.

Notes: An important collection of papers most of which were originally prepared for presentation at the symposium, appeared in the book's title. As printed here, the original texts are supplemented by figures and literature references.

DULL RAYMOND WILLIAM

Mathematics for engineers. Revised and edited by Richard Dull. Third edition. New York: McGraw-Hill Book Company, Inc., 1951 822 p. illus. 21 cm. \$7.50 1802

Contents (abridged): Functions and graphs and the statement of problems in the form of equations. Linear or first-degree equations. Analytical and graphical solutions. Quadratic or second-degree equations. Explicit functions. Analytical and graphical solutions. Cubic functions. Polynomial functions. Power functions. Progressions. Variations, limits, and indeterminates. Series. Exponential functions and their relation to logarithmic functions. Infinite series. Determinants. Permutations and combinations. Geometry and measurement. Trigonometric functions. Polar coordinates. Vectors. Imaginary and complex numbers. Hyperbolic functions. Simple applications of coordinates. Linear equations. Second-degree equations. Conics. The parabola. The circle and the ellipse. The hyperbola. Parametric and polar equations. Empirical equations. Application of coordinates to geometry of three dimensions. Linear equations in three variables. Differential calculus. Differentiation of logarithmic and exponential functions. Curve analysis. Integral calculus. The definite integral. Reduction methods for integration. Numerical methods. Differential equations. Determinants and analytic geometry. Index.

Notes: (3776) This volume is intended to serve practicing engineers as a quick reference manual, or as text for review or expanding their mathematical knowledge. The form and scope of presentation lie between the conciseness of the engineering handbook and the tutorial style of the mathematical textbook. Changes made in this edition include: new chapter on differential equations and an expansion of the sections on infinite series, determinants, complex vectors, and trigonometric functions.

GRINTER, LINTON ELIAS editor

Numerical methods of analysis in engineering (successive corrections). A publication resulting from a symposium held at Illinois Institute of Technology, Chicago, Illinois, arranged and edited by L. E. Grinter. New York: The Macmillan Company, 1949 207 p. illus. 24 cm. \$5.80. 1803

Contents: 1. Numerical methods based upon physical concepts. Analysis of continuous systems by distributed fixed-end moments, by R. C. Case. Statistical state of stress studied by grid analysis, by L. E. Grinter. Appendix—Method based upon solution by grid analysis, by L. E. Grinter. 2. Numerical solutions of equations for state of stress. Numerical solutions of boundary value problems by Galerkin's method, by F. E. Slichter. The quest for accuracy in computations using finite differences, by R. V. Skerfving. A new approach to the numerical solution of Laplace's equation, by M. M. Frocht. 3. Applications of numerical methods to heat transfer. Numerical solutions for thermal systems, by L. M. J. Beatty and M. Triebel. Two problems in breaking bending solved numerically by G. M. Dancow. Appendix—Thermodynamic distribution through ground, by J. D. Burchard and Y. S. Tirosh. 4. Errors and bibliographies of numerical methods. Successive corrections—a pattern of errors, by F. E. Slichter. Numerical methods of analysis of heat, plates and elastic bodies, by M. M. M. M. M. A survey of the approximate solution of two-dimensional physical problems by variational methods and finite difference procedures, by T. J. Higgins. Author index. Subject index.

Notes: The first paper in this volume, written by Hardy Cross and reprinted here from the Proceedings of the American Society of Civil Engineers, was the starting point for extensive investigations of the use of numerical methods of analysis in solving structural engineering problems that could not be solved exactly. Most of the remaining papers are not reprints but are published here for the first time. They are of interest to graduate students and to graduates engaged in research and engineering design. Substantial bibliographies accompany the papers.

KULMANN C ALBERT

Nomographic charts. New York: McGraw-Hill Book Company, Inc., 1951 244 p. 26 cm. \$7.00. 1804

Contents (abridged): Group 1. Function scales. Fifth power and root, 1/3 and 1/5 powers. 1 1/2 power. Reciprocal. Group 2. General charts. Reciprocal and reciprocal mean. Transit value of security. Area of triangles. Trapezoids. Group 3. Hydraulic charts. Head and velocity. Supercritical flow. Discharge. Subcritical flow. Discharge. Orifice discharge. Type flow and loss. Pressure loss velocity. Pipe or tank volume. Jet diameter and theoretical water horsepower. Pump size and horsepower. Rainfall runoff. Group 4. Mechanical charts. Caloric loading. Compression springs. Bolt design. Torsional moment. Pile loading. Group 5. Thermodynamic charts. Orifice steam flow. Heat loss in fire pump. Boiler efficiency. Group 6. Electrical charts. Voltage drop in conductors. Power factor and total power. Equivalent circuits. Capacitance and reactance. Surge impedance. Voltage-characteristic reduction. Vector equivalents. Index.

Notes: In this book the author has assembled 93 charts of fairly general utility in engineering which he has found useful in his own work over a period of years. In general the arrangement of the book places the chart on the right-hand page and the description of it on the facing left-hand page, thus facilitating use.

OLDENBURGER, RUFUS

Mathematical engineering analysis. New York: The Macmillan Company, 1950 426 p. illus. 24 cm. \$8.00. 1805

Contents (abridged): Fundamentals of the mechanics of particles and rigid bodies. Applications and further development of the theory of the mechanics of rigid bodies. Fundamentals of electricity and magnetism. Electric systems. Electromagnetic fields. First law of thermodynamics. Second law of thermodynamics. Heat transfer. Fundamentals of theory of elasticity. Elasticity for one and two dimensions. Elasticity in three dimensions. Fundamentals of fluid theory. Compressible fluids. Aerodynamics.

Notes: This text in mathematics but one is utilizing mathematics in the solution of research problems in engineering. Its purpose is to show advanced engineering and science students who are preparing for industrial research how to set up physical problems so that they can be solved mathematically. The author has assumed that his readers will have knowledge of advanced calculus. Scores of specific engineering examples are used in the exposition. These have such titles as: Automobile with shock absorbers and elastic tire; "Ratchet" moving in two-dimensional space; "Damped engine driving" increases propeller through long shaft; and "Flow past an airfoil" wing.

SALVADORI MARIO GEORGE

Numerical methods in engineering. With a collection of problems by Melvin L. Baron. New York: Prentice-Hall, Inc., 1952 258 p. illus. 21 cm. (Prentice-Hall civil engineering and engineering mechanics series N. M. Newmark, editor) \$7.15 1806

Contents: The practical solution of algebraic and transcendental equations. Finite differences and their applications. The numerical integration of initial value problems. The numerical integration of ordinary boundary value problems. The numerical solution of partial differential equations. Index.

Notes: A text of introduction which is designed both for college students and for graduate engineers. The numerical methods are especially adapted to use on electric calculating machines of the desk type and on slide rule. The book contains concise but clear explanations of many useful numerical methods, such as Gauss' elimination scheme, Cholesky's matrix method, the relaxation method, the trapezoidal rule for numerical integration, Runge's methods for second order linear equations, and Runge's one-third rule. The author is Associate Professor of Civil Engineering in Columbia University.

WIENER, NORBERT

Extrapolation. Interpolation, and smoothing of stationary time series with engineering applications. New York: Published jointly by The Technology Press of The Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1949 163 p. illus. 24 cm. \$4.00 1807

Contents: Introduction. History of fundamental mathematical notions. The Wiener predictor for single time series. The Wiener filter for single time series. The Wiener predictor and filter for multiple

clude the addition of chapter on vibration, short discussions of piezoelectric action and dimensional analysis, and brief historical and biographical sketches.

JENANT ANDREW

Frictional phenomena. New York: Chemical Publishing Co. Inc., 1950. 497 p. illus. 23 cm. \$12.00 1814

Contents (abridged) Part A, Frictional processes in general: Review of the concept of friction in physics and engineering; Outline of the mathematical treatment of frictional processes. Part B, Frictional processes in theory: Stress and experimental facts. Absorption of sound waves and of superconductivity. Part C, Frictional processes in liquids: Structural viscosity. The flow of fluids. Applications of liquid viscosity to electrical insulating liquids, particularly in high-voltage cables. Lubrication. Part D, Frictional processes in solids: The plastic flow of solids. Correlation between plastic models and viscosity of liquids and plastics. Engineering applications of the plastic flow of solids. Internal friction in solids. Reduction of vibrations by use of materials of high damping capacity. Stress-dependent plastic resistance and damping capacity of alloys. External friction of solids. Part E, Problems with solutions. Index.

Note: Emphasis is in the monograph on the physics of frictional phenomena, but numerous of engineering applications are introduced frequently. Many topics are discussed rather briefly. For example, the chapter on lubrication is only 14 pages long, but bibliography of 34 references to books and papers is appended to it. The treatment is on graduate level. The book is of interest to many fields of science and industry. The author is Staff Physicist in the Research Department of the Detroit Edison Company.

GIRVIN, HARVEY FRANK

Applied mechanics. Second edition. Scranton Pa. International Textbook Company 1949. 417 p. illus. 24 cm. (International text books in civil engineering, Benjamin A. Whistler consulting editor) \$5.50 1815

Contents (abridged) Fundamental conceptions. Coplanar, concurrent force systems. Coplanar parallel force systems. Coplanar non-concurrent force systems by mathematical methods. Non-coplanar force systems by graphical methods. Flexible cables. Friction. Centroids and centers of gravity. Kinematics of particles. Kinematics of rigid body. Rigid bodies considered as rigid body. Centroids. Motion. Rotation. Work, energy and power. Plane motion of rigid body. Impulse and momentum. Index.

Note: (1815A) A successful textbook for engineering college courses. Both mathematical and graphical methods of problem solving are covered. Some American worked examples are included in the text, the book has some material for study outside organized courses. If major changes were made in preparing this edition but numerous minor additions and improvements were made. The number of problems to be worked by the student has been greatly extended. The type for the whole book was reset. The new format is considerable improvement over that of the first edition.

GRIFFIN HENRY

Industrial rheology and rheological structures. New York: John Wiley & Sons Inc., 1949. 311 p. illus. 22 cm. \$6.50 1816

Contents (abridged) Part A rheological system, Part B, The system applied to laboratory measurements. Part C, The particle—the basis of rheological structure. Part D, Particle groups rheological structures. Appendix: Literature cited. Glossary. Author Index. Subject Index.

Note: In this work the author describes a system used in his own laboratory that is based on use of an arbitrary constant curve and is especially suited to practical use in industry. The system is explained and is compared with other systems. Its practical applications together with the mathematical computations involved are covered thoroughly. The work is addressed chiefly to technical personnel in industry who are concerned with processes where rheology of product is an important consideration.

MIRIAM J. L.

Mechanics part I, Statics part II, Dynamics. New York: John Wiley & Sons, Inc. 1952. 2 v. illus. 24 cm. Part I, \$4.00 part II, \$4.00 1817

Contents: Part I, Statics: Principles of mechanics. Force systems. Equilibrium. Structures. Distributed forces. Beams. Friction. Virtual work. Index. Part II, Dynamics: Kinematics. Principles of kinematics. Force, mass, and acceleration. Work and energy. Impulse and momentum. Rigid bodies. Appendix: Moments of inertia. Useful tables. Index.

Note: Although divided into two parts for convenience, this text for beginning students is compact treatment in total of 671 pages of the theory and application of mechanics. The opening chapter on the principles of mechanics, is repeated in both volumes, as are the appendices. The sequence progresses from fundamentals to advanced theory with emphasis upon the importance of principles. An outstanding feature is the inclusion of total of 1273 practical problems, almost all of which are illustrated by line drawings of exceptional clarity and reality. Solutions are printed in full for certain of the problems, and answers are given for many more.

PLETTA, DAN HENRY

Engineering statics and dynamics. New York: The Ronald Press Company, 1951. 392 p. illus. 23 cm. (A volume of a series in engineering mechanics, edited by Glenn Murphy) \$5.50 1818

Contents: Statics: The scope and fundamental concepts of mechanics. The translation and composition of force systems. Forces in equilibrium. Trusses, frames, and cables. Internal reactions of solid bodies. Centroids and moments of inertia. Dynamics: Part I, Kinematic Motion of particles. The motion of rigid bodies. Dynamics, Part II, Kinetics. Kinetics. Particle forces. Work, energy and power. Impulse, momentum, and impact. Vibrations. Dimensional analysis and model similarity. Appendix: Answers to problems. Index.

Note: A textbook intended for beginning courses in statics and dynamics. The general theory of each topic is presented first and then the specific applications are considered. Descriptive matter is kept at a minimum, but many illustrative problems are presented. The author is Head of the Department of Applied Mechanics in the Virginia Polytechnic Institute.

SEELY, FRED B. AND NEWTON E. ENSIGN
Analytical mechanics for engineers. Fourth edition. New York: John Wiley & Sons Inc. 1952. 443 p. illus. 22 cm. \$5.50 1819

Contents: Part one, Statics: Fundamental concepts and definitions. Equilibrium of force systems. Equilibrium of coplanar force systems. Equilibrium of trusses and cables. Equilibrium of non-coplanar force systems. Friction. Part two, Kinematics: Motion of particles. Motion of rigid bodies. Part three, Kinetics: Force, mass, and acceleration. Work and energy. Impulse and momentum. Part four, Special topics: Mechanical vibrations. Balancing. Appendix: First moments and centroids. Index.

Note: (1819A) A college textbook in which physical principles are presented for the benefit of prospective engineers. The emphasis is on the principles but engineering applications are indicated in the worked examples and in the problems for students to solve. Problems in equilibrium and in dynamics have been given special attention. The third edition appeared in 1941. In this edition moderate changes have been made in the illustrations, in the problems, and in various parts of the discussion.

VIBRATION

CRIDE, CHARLES E.

Vibration and shock isolation. New York: John Wiley & Sons Inc., 1951. 328 p. 24 cm. \$6.50. 1820

Contents: Introduction. Isolation of vibration. Isolation of shock. Further considerations in vibration and shock isolation. Properties of materials and design of isolators. Particular applications of isolators. Index.

Note: A treatise covering both theory and practice in the use of resilient supports to protect machines and structures from vibration and shock. This subject is of interest to many engineers, ranging from those who design the relatively simple supports for automobile engines to those who are concerned with the installation of very heavy machines, such as punch presses. Most of the book is devoted to theory and fundamental considerations rather than to practical applications. It is addressed to graduate engineers and other persons who have equivalent backgrounds in mathematics, the fundamentals

of mechanics, etc. Each chapter includes selected list of literature references.

FREBERG, CARL ROGER AND E N KEMLER

Elements of mechanical vibration. Second edition. New York John Wiley & Sons, Inc. 1949 227 p. illus. 24 cm. \$3.75 1821

Contents: Introduction. Vibrations without damping. Damped vibrations. Vibration of systems with several degrees of freedom. Vibration isolation and absorption. Equivalent systems. Beam model. The mobility method. Mechanical and electrical models of vibration systems. Bibliography. Answers. Index.

Note: This introductory text which covers the basic techniques utilized in the analysis of vibrations in mechanical systems. The calculations involved do not require mathematical skill beyond that of differential and integral calculus. Practical applications of the theories and methods are illustrated by the use of numerous worked problems. In this edition the major changes consist of the expansion of the sections on beams in form of new chapters and the addition of chapter dealing with forced as form of vibration.

HANSEN, HOLGER M., AND PAUL F CHENEA

Mechanics of vibration New York John Wiley and Sons, Inc. 1952 417 p. illus. 24 cm. \$8.00. 1822

Contents: General concepts. Part I. Systems of one degree of freedom. Free vibrations without damping. Forced vibrations without damping. Forced vibrations with damping. Part II. Systems of several degrees of freedom. Classical method. The mobility method and use of the complex variable. Solution of the general frequency equation. Part III. Special topics. Systems with distributed physical constants. Vibrations of transient character. Vibrations of non-linear character. Problems. Answers to problems. Index.

Note: The authors of this work are members of the faculty of the University of Michigan and the book has been developed from course in vibration analysis at that university. It is necessary to the subject area in faculty teaching literature. In the third part the student is introduced to problems and methods that are typical of those in use in practical vibration analysis in industry.

HYDRAULICS

CREAGER, WILLIAM PITCHER AND OTHERS

Hydroelectric handbook, by William P Creager and Joel D Justin with the assistance of contributors Second edition. New York John Wiley & Sons Inc. 1950 1151 p. illus. 24 cm. \$15.00 1823

Contents (abridged): Preliminary studies and economic factors. Factors affecting runoff. River gauging, by H. C. Greiner and J. C. Hoyt. Flood flow investigation of sites. Hydraulics. Power and storage. Types of hydro plants. Cost of station power. Cost of hydro power. Dam—design and construction. Solid gravity concrete dams. Arch dams. Earth dams. Timber dams and steel dams. Spillways and headwater control. Canals and percolation. Intakes. Canals. Steel pipe, by C. H. Schuman and H. C. Beardsley. Wood stave pipe, by R. E. White. Water hammer, by R. R. Sturgess. Power house structures. Powerhouse construction, by J. E. Goodell. Equipment and operation. Hydraulic turbines, by Arnold Pless and W. M. White. Electrical design, by R. A. Hapkins. Operation of hydroelectric plants, by Allison Davis. Index.

Note: There are 44 chapters in this comprehensive work. Each chapter is concerned technical study on its like subject and is, in most cases, supplemented by bibliography of the most technical literature. The book is standard one for practicing engineers and is especially useful to those members of the profession who have not specialized in hydroelectric engineering but are beginning to work with the construction or operation of hydroelectric plants. The first edition was published in 1927 and was 397 pages in length. The greater part of the material in the second edition is new.

DAVIS CALVIN VICTOR, editor in-chief

Handbook of applied hydraulics. Second edition. New York McGraw Hill Book Company Inc. 1952 1272 p. illus. 24 cm. \$15.00. 1824

Contents: River regulation by reservoirs, by T. T. Krapp and others. Gravity dams, by C. V. Davis. Arch dams, by L. K. Meek. Buttress dams, by E. H. Burroughs. Earth dams, by T. T. Krapp and J. Levy. Rock fill dams, by L. C. Meek. Locks and stream-bed protection works, by K. W. Lane and C. V. Davis. Highway cross gages, by J. J. Burrows and J. E. Burrows. High pressure outlet works, by A. A. Kludis. Canals, tunnels, canal control, tunnels, and pipe lines, by J. Hinch. Hydroelectric plants, by J. C. Stevens and C. V. Davis. Hydraulic machinery, by L. F. Knud. Water hammer, by G. R. Rich. Surge tanks, by G. R. Rich. Flood regulation and governing stability, by G. R. Rich. Navigation locks, by G. R. Rich. Irrigation, by L. K. Meek. Irrigation structures, by L. K. Meek. Water supplies, by T. R. Camp. Water distribution, by T. R. Camp. Water treatment, by T. R. Camp. Arroyos, by J. J. Greeley and W. E. Stanley. Drainage-treatment hydraulics, by J. J. Greeley and W. E. Stanley. Hydraulic switch, by G. R. Rich. Hydraulics, by P. L. Klopick. Appendixes: Hydraulic formulas, by W. L. Vennart. Graphical aids to hydraulic computations, by L. E. Burrows. Index.

Note: A standard engineering handbook of the "encyclopedia" type. Although the portions covering the special collections of data are presented, they are subordinated to an engineering text which is designed to be used. In many of the sections fundamental principles and their practical applications are presented by describing the engineering features of representative projects already constructed. For this edition much of the original section has been rewritten or reorganized. Sections on water hammer, surge tanks, navigation locks, and speed regulation have been added. The appendix discussions include those on gravity dams and hydroelectric plants. The appendices on formulas and graphical aids are also newly edited.

EINSTEIN, HANS ALBERT

The bed load function for sediment transportation in open channel flows. Washington, D C. Government Printing Office, 1950. 71 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1026) Paper 1825

Contents: Introduction. Approach to the problem. Discussion of the bed-load function. Hydraulics of the alluvial channel. General discussion. Interpretation of the suspended load. Limit of suspension. Theoretical calculation of suspended load. Bed-load and suspended load. The equation. Transition between bed load and suspended load. Sample calculations. Flume tests with sediment mixture. Sample calculations of river work. Limitations of the method. Summary. Literature cited. Appendix: List of symbols. Work charts.

Note: A method for determining the bed-load function for any stream. All types of stream channels is described in this pamphlet. The method permits accurate prediction of protection of stream channel. Important in the prevention of bed erosion, which may be caused by improvements such as stone or other projects along the flow of the stream and which, if serious, may lead to the submergence of nearby installations, a bridge pier, sewer outlet, and bank-protection works. The illustrative material includes size bed-load work charts in pocket.

IOWA STATE UNIVERSITY INSTITUTE OF HYDRAULIC RESEARCH

Engineering hydraulics proceedings of the fourth Hydraulic Conference June 12 15, 1949 Edited by Hunter Rouse. New York John Wiley & Sons Inc. 1950 1039 p. illus. 24 cm. \$15.00. 1826

Contents: Fundamental principles of flow, by H. Rouse. Hydraulic, by J. E. Wessels. Flow measurement, by J. W. Rouse. Hydraulics, by G. R. Williams. Flow of ground water, by C. E. Jacob. Steady flow in pipes and conduits, by V. L. Klemm. Surge tanks and water hammer, by J. S. McQuinn. Channel transition and flow, by A. T. Lippin. Gradually varied channel flow, by G. J. Fawcett. Flood routing, by R. R. Galtman. Wave motion, by G. R. Williams. Sediment transportation, by C. R. Brown. Hydraulic machinery, by J. W. Daily. Appendix: List of symbols. Dimensional considerations. Properties of common fluids. Author index. Subject index.

Note: A comprehensive treatise in which the emphasis is on the principles and basic techniques of hydraulic engineering and the specialized applications. The work was planned as a whole by the staff of the Iowa Institute of Hydraulic Research, and each of the thirteen subdivisions has which the main subject was divided into the thirteen subdivisions which the main subject was divided into the thirteen authors were selected and coordinated, then listed in

presented here to the registrants for the fourth Hydraulics Conference sponsored by the Institute. This conference was devoted to criticism and discussion of the manuscripts. Finally all of the chapters were revised in the light of the expert criticism. The final result is a book that should take its place as the basic volume in any library collection on hydraulic engineering.

McCLAIN, CLIFFORD HENDERSON

Fluid flow in pipes. A clear-cut summary of modern theory in the flow of liquids and gases through piping and ducts, with practical applications and detailed worked-out examples. New York: The Industrial Press 1952 123 p. 24 cm. \$3.00. 1827

Contents: Dimensions of fluid properties. Viscosity of fluids. Effect of piping on fluid flow. Design practice.

Note: Apparently this is the third edition of a book that has already enjoyed some circulation among engineers and other persons concerned with the design of industrial piping. The basic phenomena and theory are covered rather thoroughly from the standpoint of design. Enough of the exposition is expressed mathematically that the mathematics is relatively simple. Twenty worked examples are included at appropriate points to assist the engineer or plumbing contractor who studies the book by himself.

POWELL, RALPH WATERBURY

An elementary text in hydraulics and fluid mechanics. A revision of *Mechanics of liquids* New York: The Macmillan Company 1951 316 p. illus. 23 cm. \$4.75 1828

Contents: Hydraulics. Fundamentals of fluid flow. Orifices, tubes, nozzles, and vents. Pipe flow in open channels. Further effects of viscosity: surface tension, and compressibility. Models. Appendix: Properties of fluids, with tables. Dimensional analysis. Rational units for pipe flow, stress, strain, etc. Index.

Note: (1827) A textbook designed for use in engineering colleges. Appropriately it pays due attention to the historical development of the subject and engineering practice. However, both the examples that are worked in the exposition and the problems for the student to solve illustrate concrete applications in engineering. Some transportation and considerable revisions have been put into the present edition. The major addition is the chapter on hydraulic models.

RICH, GEORGE ROLLO

Hydraulic transients. New York: McGraw-Hill Book Company Inc., 1951 260 p. illus. 24 cm. (Engineering Societies monographs, Ralph H. Phelps, consulting editor) \$7.00 1829

Contents: Water hammer. Turbine speed regulation. Stability of servos. Water-hammer pressure in pump discharge lines. The differential surge tank. The restricted-orifice surge tank. Negligible loss. Surges in power cables—(d-d) harmonics. Elements of the graphical method of water-hammer analysis. Index.

Note: As engineering college textbook applying systematic integration and trial-and-error technique to practical problems in water-hammer surge-tank design, turbine-speed regulation, stability of servos, pressure in pump discharge lines, lifting systems for suspension bridges, and surges in open channels. In few cases where the development of theory requires the solution of partial differential equations the author has employed the complex operational calculus, explaining that the reader need familiar with the method "only take this small amount of routine mathematics for granted without any impairment of the general usefulness of the book in practical computation. The author states his opinion that no method exceeds the systematic-integration process in simplicity and direction or affords as clear an insight into the physical action at all stages of the cycle. Bibliographical references appear at the ends of the chapters.

STEARNS REID F. AND OTHERS

Flow measurement with orifice meters, by Reid F. Stearns, Russell R. Johnson, Robert M. Jackson and Charles A. Larson. New

York: D. Van Nostrand Company Inc. 1951 330 p. illus. 26 cm. \$7.50 1830

Contents: (abridged) Introduction. Derivation of flow equations. Application of flow equations to metering problems. Evaluation of variable terms in flow equations. Principles of operation of commercial meters. Interpretation of meter records. Orifice meter installation. Testing and checking meters. Special metering problems. Accuracy of orifice meter installations. Appendices: Supplemental metering information. Numerical data. Physical data. Bibliography. Index.

Note: A comprehensive manual of the use of orifice meters for the measurement of the flow of fluids including gas, steam, water, oil, and chemicals in pipes and other closed conduits. It has been written for four engineers associated with the Standard Oil Development Company and it is addressed primarily to chemical engineers at work in industry. Such aspects of the general subject as selection of orifice size, types of differential meters, installation of meters, the keeping and interpretation of meter records, and estimation of accuracy are discussed fully. The book abounds in graphs and tables designed to facilitate its use by engineers who are not meter specialists.

STREETER, VICTOR LYLE

Fluid mechanics. New York: McGraw-Hill Book Company Inc. 1951. 366 p. illus. 24 cm. \$5.50. 1831

Contents: Pressure. Velocity. Static pressure forces. Fluid flow concepts and basic equations. Action of fluid jets—transientary. Laminar flow. Flow measurement. Steady flow in closed conduits. Flow in open channels. Flow around immersed bodies. Oil hydraulic systems. Appendixes: Physical properties of fluids. Partial derivatives and total differentials. Index.

Note: An elementary textbook for engineering students. It is supposed that the student will have completed courses in integral calculus and at least two courses in engineering mechanics before undertaking the course of study in fluid mechanics. Expositions of the subject matter presented are carefully presented on the elementary level and, in general, the adequate treatment that the use of partial differentials would make possible has been avoided so that students may focus upon the fluid phenomena. A large number of problems, both of the theoretical type and of the multiple-choice type, are printed at the end of each chapter, and bibliographical references are given at the close of some of the chapters.

UNITED STATES. BUREAU OF RECLAMATION

Hydraulic and excavation tables. Tenth edition. Washington, D. C.: Government Printing Office, 1950. 173 p. 18 cm. \$1.50. 1832

Note: Compiled originally for the official use of the engineers of the Bureau of Reclamation, this manual of tables has proved to be useful to other engineers concerned with projects involving hydraulics and earth moving. Most of the 54 tables were compiled from the publications. Earlier editions appeared in 1903, 1910, 1913, 1917, 1921, 1924, 1925, 1940, and 1944, and the number of tables has gradually increased from 15 to the present 54.

WILSON, WARREN ELVIN

Positive-displacement pumps and fluid motors. New York: Pitman Publishing Corporation, 1950. 250 p. illus. 24 cm. \$7.50 1833

Contents: History and elementary concepts. Definitions for fluid performance. Classification of pumps and fluid motors. Characteristics and applications of positive-displacement units. Elementary performance calculations. Elements of fluid flow. Pump and motor theory. Advanced analysis of experimental data. Design methods. Hydraulic circuits. Hydraulic transmissions. Appendixes: Bibliography. Symbol list. Conversion factors for dynamic viscosity. Index.

Note: Positive-displacement pumps (and fluid motors) include such types as vane pumps, gear pumps, piston pumps, rotating pumps, gear pumps, screw pumps, and lobe pumps. From this class are widely used in hydraulic mechanisms, such as hydraulic presses, airplane control systems, and automatic transmissions; hence, an understanding of their basic principles is useful to engineers in many fields. This introductory book describes the chief types and their characteristics, the basic theory and shows how capacity, efficiency, and other properties are calculated. The bibliography is about 30 pages long, and covers the literature, except patents, published from 1879 through approximately the first half of 1940.

cluded. The volume is designed for the use of engineers and architects, and is particularly valuable for its extensive tabulations of data regarding the physical and mechanical properties of a wide variety of laminated products. Bibliographies accompany most of the chapters.

ENGEL, HARRY CHARLES AND OTHERS

Structural plastics by H. C. Engel, C. B. Hemming, and H. R. Merriman. New York McGraw Hill Book Company Inc., 1950 301 p. illus. 23 cm. o.p. 1840

Contents: Theoretical aspects of high-polymeric substances. Kinds utilized in structural plastics. Relating materials. Laminated plastics. Low pressure molding. Reaction construction. Thermal behavior. Radiation and microwave welding. Appendixes: Test methods. Derivation of optimum face-thickness ratio of sandwich panels. Practical list of adhesive trade names and suppliers. Author Index. Subject Index.

Note: A useful summary of plastic materials having properties which suit them to structural use. It is designed for readers such as architects, aircraft designers, and structural engineers who will make practical use of the knowledge. Such aspects as methods of manufacture, types, official grades (where the latter have been established for the particular materials) structural properties, and effects of environmental conditions upon the finished products are covered. The presentation is compact, but liberal reference is made to source publications. Trade names and trademarked products are mentioned only incidentally, except in the chapter on adhesives. In an appendix most of the important adhesives are mentioned and classified as to type and also manufacturer's name.

LYSAGHT VINCENT E.

Indentation hardness testing. New York Reinhold Publishing Corporation 1949 288 p. illus. 24 cm. \$7.50 1841

Contents: Foreword, by Charles H. Wilson. Hardness concepts. The Brinell test. Meyer's analysis. The scleroscope. The Rockwell tester. The Rockwell superficial hardness tester. MP diamond pyramidal hardness method. Other hardness testers. Portable hardness testers. Hardness conversion relationships. Applicability of hardness tests. Tests on sheet metal. Cylindrical sections. Thin hardness testing. Microhardness testing of metals. Indentation hardness testing of non-metallic materials. Conclusion. Appendix. Index.

Note: A book of hardness and its measurement, written chiefly from the viewpoint of engineers, scientists, and other persons who are concerned with the practical measurement of hardness in connection with the manufacture of industrial products. The greater part of it is devoted to detailed discussions of the principles, characteristics, and limitations of the principal instruments which are used for testing hardness. The instruments are shown in reproductions of photographs which are supplemented by drawings of mechanical details. Special problems such as the testing of cast metals are also covered. A number of useful tables are included. The author is associated with the Wilson Mechanical Instrument Company.

MARIN JOSEPH

Engineering materials their mechanical properties and applications. New York Prentice-Hall, Inc., 1952 491 p. illus. 23 cm. (Prentice-Hall engineering design series, John A. Hrones, editor) \$8.70 1842

Contents: (abridged) Part one, Mechanical properties—general: Static properties in tension and compression. Static properties in shear and bending. Static properties under combined stresses. Fatigue properties. Impact properties. Creep and temperature properties. Part two, Specific materials: Structure of materials and control of their properties. Ferrous metals and alloys. Non-ferrous metals and alloys. Non-metallic materials. Part three, Materials testing machines and static tests. Notes. Index. Subject Index.

Note: Although this college textbook is designed to be used in introductory courses it contains as analytical treatment that enables the reader further into many topics than is common in introductory books. Methods of testing materials and the interpretation and application of results are emphasized. Unusually full discussions of such topics as creep and temperature properties are included. Related literature is listed in brackets in chapter bibliographies. The author is Professor of Engineering Mechanics and Research Professor of Engineering Materials at Pennsylvania State College.

NORD, MELVIN

Textbook of engineering materials. New York John Wiley & Sons, Inc., 1952 518 p. illus. 24 cm. \$6.50 1843

Contents: (abridged) Part I, The raw materials of engineering: Sources of raw materials. Formation of mineral deposits. Recovery of minerals. Part II, Production of engineering materials: Mineral dressing. Unit chemical processes in production of engineering materials. Principles and processes of extractive metallurgy. Part III, Properties of engineering materials: States of matter. Mechanical properties of engineering materials. Physical and chemical properties of engineering materials. Part IV, Specific engineering materials: Section 1, Materials for the generation of energy—water—fuel—explosives. Section 2, Metals. Section 3, Natural and artificial stones. Section 4, Natural and synthetic organic materials of construction. Section 5, Protective materials. Index.

Note: The first three parts of this work are devoted to an exposition of basic aspects of engineering materials. Part IV—which accounts for more than 300 of the 500 odd pages—is devoted to discussions and descriptions of specific materials. In this part each material considered is defined, and its origin, properties, manufacture, and uses are described. Finally there is a short list of important references. Many of these descriptions contain enough material to make them useful for reference by readers who want background information rather than engineering data. However, the book is intended for use in short courses in engineering colleges.

WANGAARD FREDERICK FIELD

The mechanical properties of wood. New York John Wiley & Sons, Inc., 1950 377 p. illus. 22 cm. \$7.50. 1844

Contents: (abridged) Part I, Basic mechanical properties of clear wood: Structural uses of wood. Tensile strength. Compression or crushing strength. Stiffness. Torsion. Hardness. Creep and relaxation. Elastic properties. Part II, Factors affecting the mechanical properties of woods: Defects—Knots—Checks and shakes—Gum grain—Wood-inhibiting fungi—Compression failures and cross-bracing—Steel joints—Machine bore injury—Lightning chips. Factors other than defects—Density—Position in tree—Moisture content—Frost—Frost damage—Disturbance and exposure—Season of cutting—Direction of stress—Fading. Part III, Working properties for structural lumber: Factors concerned in the destruction of loads under stress. Selection of wood for clear wood. The basis for structural lumber grades. Applications of working stresses in design. Part IV, Timber settings: Working plan. Moisture determination. Machines for static tests. Description of tests. References. Appendix. Index.

Note: In this book of wood information is presented on the various factors which affect the strength and other mechanical properties of wood and the methods of testing wood. All of the topics mentioned in the above table of contents and about as many more are covered concisely but in sufficient detail for average use. The text is liberally supplemented with literature references and tabulated data. The book is of interest to builders, structural engineers, and others who are required to specify or test wood for manufacturing or structural purposes. It supplements O. A. Granger's book (1371) of the same title.

WOLDMAN NORMAN ELMER

Materials engineering of metal products. New York Reinhold Publishing Corporation, 1949 583 p. illus. 24 cm. \$11.00 1845

Contents: (abridged) Section I, Materials for light weight construction. Aluminum alloys. Magnesium alloys. High strength low alloy steels. Stainless steel. Section II, Materials for mechanical products: Cast materials. Spring materials. Bearing materials. Section III, Materials for the electrical industries: Magnetic materials. Electrical contacts. Thermistor metals. Section IV, Materials for special and severe service: Corrosion and its prevention. High-temperature materials. Section V, Testing: Mechanical testing. Non-destructive testing and inspecting. Appendix: Properties of materials. Subject Index.

Note: (1100) Essentially a desk reference book for engineers concerned with design and specification. However, it is more than mere compilation of data. The expected tabulations of properties are present, but the greater part of the text consists of concise but helpful discussions of such matters as the behavior of specific materials under working conditions. For example, the chapter on electrical contacts includes discussion several pages in length on contact erosion and failure, in which the causes of contact failures are made clear. Most of the matter relating to metals, but few other materials, such as carbides for gears, are covered. The work is companion to the author's *Applied Process Engineering*.

MATERIALS HANDLING

HUDSON, WILBUR G

Conveyors and related equipment. Second edition. New York John Wiley & Sons, Inc., 1949 468 p. Illus. 24 cm. \$7.50 1846

Contents. General principles. Screw conveyors. Flight and apron conveyors. The bucket elevator. The skip hoist. Bucket cranes. Unit loads. The continuous-flow conveyor. Pneumatic and hydraulic conveyors. The belt conveyor. Aerial conveyors. Storage and transport. Bins and breakers. Unloading water-borne cargoes. Crushers, hammermills, and pulverizers. Screens and feeders. Car unloading. Weighing. Chutes, drives, drive groups, motors. Power-plant coal and ash handling. Some problems and solutions. Dust-explosion hazards. Appendices. Index.

Note: (13113a) Information is presented about machinery and equipment for the handling and storing of industrial materials, and about large-scale storage of selected materials such as coal. The viewpoint is that of an engineer concerned with the selection of materials-handling equipment, and the presentation is largely descriptive, though written in technical terminology. In revising the work for the present edition the author made numerous small changes throughout the text and added two chapters. There is no bibliography.

REIKERL SIDNEY

Trolley conveyors. New York McGraw Hill Book Company Inc., 1949 263 p. Illus. 24 cm. \$5.00 1847

Contents: General features. What to buy. Laying out the conveyor. Chutes. Trolleys. Track and supports. Horizontal loads. Vertical loads. Drives. Tables. Overhead devices. Multiple drives. Take-ups. Attachments, carriers, and hooks. Controls and recovery stops. Calculating chain pull. Special conveyors. Power and fuel. List of visual aids. Index.

Note: The overhead trolley conveyor is said to be the most important type of conveying equipment in present-day manufacturing plants and in other industrial establishments where loads must be moved frequently over the same route. In this book trolley conveyors are discussed thoroughly from the viewpoint of industrial engineers, plant managers, and others who may be concerned either with their layout or maintenance. Practical information, which includes dimensional drawings, is given on the chutes, trolleys, tracks, and other parts of these conveyors. All other aspects which are needed in planning conveyor systems are fairly covered. A considerable proportion of the numerous illustrations show details of trolley conveyor installations in factories.

CIVIL ENGINEERING

GENERAL

URQUHART, LEONARD CHURCH editor

Civil engineering handbook. Third edition. New York McGraw Hill Book Company Inc., 1950. 1002 p. illus. 24 cm. \$11 00. 1848

Contents: Surveying, by R. E. Davis, Railway, highway and airport engineering, by J. R. Babcock, 2nd, and A. J. Rees, Mechanics of materials, by J. R. Koenigs, Hydraulics, by R. W. Kling and E. F. Beiler, Structures in trussed structures, by L. C. Dreyer, Steel design, by C. T. Bishop, Concrete and masonry, by H. J. Gilley, Soil mechanics and foundations, by A. E. Cummings, Sewerage and waste disposal, by R. G. Tyler, Water supply and purification, by H. E. Babcock, Index.

Note: (1189) As in previous editions, this book is primarily basic reference tool for upperclass students and practicing engineers. In spite of its handbook nature, many of the sections are fairly complete summaries of the topics to which they are devoted. Although the greater part of the text has been carried over from the previous edition, there has been extensive revision. The additional 125 pages are largely accounted for by new sections on photogrammetric surveying, airport engineering, and hydraulic masonry, but the chapter on concrete and masonry has been expanded, and masonry and soil sections are treated at greater length, and numerous small changes occur throughout the book. The bibliography has been revised.

WHITE, LAZARUS, AND EDMUND ASTLEY PRENTIS

Cofferdams Second edition, revised and enlarged. New York Columbia University Press, 1950 311 p. illus. (part col'd) 24 cm. \$10.00 1849

Contents: Hydrodynamics of cofferdams. Excision in streams. Local earth pressure. Load cofferdams. Practical considerations. Examples of cofferdams. Appendix: Macmillan photographs. Weirs and piers. Glossary. Bibliography. Index.

Note: (1480) Apparently this work is the only full-scale treatment in book form of its subject. It covers both basic theory and practice. It is used chiefly as survey and reference book by practicing engineers and contractors who are directly concerned with the construction of cofferdams. The chapter on excavation contains specific descriptions of Alaska cofferdams of various types. The first edition appeared in 1940. A considerable amount of new material has been added to the present edition.

SURVEYING

GOSSITT F R.

Manual of geodetic triangulation. Washington, D. C. Government Printing Office, 1950 344 p. illus. 25 cm. (United States Coast and Geodetic Survey Special publication no. 247) Paper \$1.50. 1850

Contents: Introduction. Reconnaissance. Triangulation base measurements. Azimuths. Special surveys. Appendix: Specifications for horizontal and vertical control strength of spans. Constants and formulas. Lists of instruments and equipment. Lists of books and former Standard list of countries names of subjects used in triangulation. Special applications of vertical-angle measurements. Macmillan tables. Index.

Note: The material in this manual is the product of accumulated experience in the field and in the office of numerous members of the U. S. Coast and Geodetic Survey for many years. The manual is a compilation of currently approved methods for triangulation surveys of the Coast and Geodetic Survey furnishing specifications and in-

structions for first-, second- and third-order triangulation by field parties of the Survey.

MEYER, CARL FREDERICK

Route surveying. Scranton, Pa. International Textbook Company, 1949 300 p. illus. 19 cm. \$7.00 1851

Contents: Part I, Basic principles Route location. Simple curves. Compound and reverse curves. Parabolic curves. Spirals. Earthwork. Part II, Practical applications: Special curve problems. Curve problems in highway design. Railroad surveys. Highway surveys. Surveys for other routes. Part III, Theory of the spiral. Part IV, Tables. Index.

Note: The basic principles and techniques of route surveying are presented in this text and pocket-book. The author is Professor of Civil Engineering in Worcester Polytechnic Institute, and his book is designed primarily for engineering college students. However, it contains good deals of concise but thorough including tabulated data which should be used of the engineer in the field. The book is well organized and clearly written.

PICKELS, GEORGE WELLINGTON, AND CARROLL CARSON WILEY

Route surveying Third edition. New York John Wiley & Sons, Inc., 1949 434 p. illus. 18 cm. \$5.15 1852

Contents: Route surveys. Maps, plans, and profiles. Distances, curves, and grades. Circular curves. Spirals. Setting lines, railroad curves. Parabolic curves. Railroad traverses, connections, and cross-ings. Earthwork. Appendix: Theory of spiral. Tables. Index.

Note: (1146) An advanced text and reference book for surveys and civil engineers. Railroad surveys are treated first, then applications or modifications of the methods to other routes such as highways, pipe lines, and power transmission lines are dealt with. Knowledge of elementary surveying and trigonometry is presupposed. In this edition the chapter on string lining has been completely rewritten, and other minor changes have been made throughout to incorporate new material.

RAYNER, WILLIAM HORACE

Advanced surveying. Second edition. New York D Van Nostrand Company Inc. 1950 369 p. illus. 20 cm. \$5.00 1853

Contents: Errors. Profile leveling. Traverses. Triangulation. Field astronomy. Topographic surveying. Hydrographic surveying. The measurement of stream flow. Mine surveying. Photogrammetry. Plane coordinates. History of surveying. Index.

Note: (1147) A standard textbook designed for use in undergraduate college courses which have been prepared by courses in elementary surveying. It explains the more refined methods of measurements used in accurate work and also in specialized work. The major change in this edition is revised treatment of photogrammetry. Also, true master parallel table has been included and there are other minor changes. The author is Professor of Civil Engineering in the University of Illinois.

RUBEY HARRY

Route surveys, a pocket book for the survey design, and construction of railways, highways, tramways, beltways, canals, flumes, levees, pipe lines, transmission lines, and other route constructions. Revised edition. New York The Macmillan Company 1951 282 p. illus. 12 cm. \$5.25 1854

Contents: (revised) The reconnaissance. Location. Simple circular curves. Compound and reverse curves. Vertical and other parabolic

adjustment for deflection. Three-point vertical beam. Scaling of positions. Stereoscopic plotting instruments, by G. C. Towle. The stereoscope method. The multiple projector. The stereograph. Records and reports, by R. G. Jones. Records and reports for photogrammetric mapping. Sketch drafting and publication. Map revision. Coordination of photogrammetric and hydrographic surveys. Tilt-metering mapping. The Schneider stereoscope. Reference books. Index.

Note: The work describes, with appropriate illustrations, the methods of Coast and Geodetic Survey in the making of maps from aerial photographs. The publication is the second part of complete Topographic Manual being prepared by the Coast and Geodetic Survey. Part (not yet published) contains the requirements and detailed instructions for field topographic surveys, including plane table surveys without using aerial photographs and photogrammetric field surveys made for the completion of maps from aerial photographs.

THOMAS PAUL D

Conformal projections in geodesy and cartography. Washington, D. C. United States Government Printing Office 1952 142 p. illus. 26 cm. (United States Coast and Geodetic Survey Special publication no. 251) Paper \$0.60 1861

Contents: (a) Conformal projections—Mercator projection—transverse Mercator projection—oblique Mercator projection. Lambert conformal cone projection—two standard parallels—two standard parallels. Stereographic projection—polar—mercator—borealis—polar coordinates for the stereographic projections of the sphere. Derivatives of mapping formulas. Bibliography. Index.

Note: The mathematical formulas for the various projections treated in the above table of contents are collected in the first 15 pages of this work for the convenience of those who are practically concerned with geodesic computations and cartography. The remainder of the book is devoted to a short account of conformal mapping theory and to derivations of the formulas. Short accounts of the history of such projections are included. The publication supersedes O. S. Adams, *General theory of the Lambert conformal cone projection*, Washington, D. C., 1918, and includes material selected from several other publications of the Coast and Geodetic Survey.

UNITED STATES LIBRARY OF CONGRESS. MAP DIVISION

Three-dimensional maps: an annotated list of references relating to the construction and use of terrain models. Compiled by Walter W. Ristow. Washington: The Library of Congress, 1951 43 p. 26 cm. Paper \$0.35 1862

Note: The 224 references cited in this bibliography provide comprehensive listing of articles and books published from 1646 to June, 1951. Most of the references cover publications of the past ten or twenty years and describe the construction and use of terrain models made of plaster of Paris, plastic, and rubber. The entries are annotated and arranged alphabetically by subject. A brief subject index is included.

STRESS ANALYSIS AND THEORY OF STRUCTURES

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on dynamic stress determinations. Presented at the Pacific Area National Meeting, San Francisco, California, October 11 1949. Philadelphia: American Society for Testing Materials, 1950 61 p. illus. 23 cm. (Special technical publication no. 104) Paper \$1.50 1863

Contents: Introduction, by H. D. Kierstead. Analysis and interpretation of dynamic records, by H. C. Roberts. Survey of pickups for dynamic physical measurements, by G. K. White. Selection of recording equipment for dynamic testing, by K. D. Stewart. Some examples of dynamic testing in the field of materials and structures, by D. McIlwain and H. K. Friedman.

Note: A collection of original papers in which recently developed devices and techniques for the analysis of dynamic forces operating on materials and structures are compactly described. The final paper includes an extensive bibliography.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on structural sandwich construction. Presented at the fifty fourth annual meeting. American Society for Testing Materials. Atlantic City N. J. June 21 1951. Philadelphia: American Society for Testing Materials, 1952 114 p. illus. 23 cm. (Special technical publication no. 118) Paper \$2.00. 1864

Contents: Introduction, by A. G. H. Dietz. Developments and trends in lightweight composite construction, by L. J. Markwardt. Sandwich construction in the elastic range, by H. W. March. Strength of sandwich construction, by C. E. Macie. Compression and tensile instability of sandwich cylinders, by G. G. Gurdur. Paper presented as a core for structural sandwich construction, by E. W. Kram. Aluminum honeycomb sandwich construction, by T. P. Pugh. Some developments in structural sandwich building panels having isogrid cores, by G. M. Rapp. Fabrication techniques for structural sandwich construction, by B. G. Eshelby.

Note: Sandwich constructions consisting of this strong facings bonded to lightweight cores are designed to provide stress light structures. These papers describe the composition, manufacturing processes, and methods of testing various types of "sandwiches." They have been prepared by experts in this field and report on experimental work conducted by the authors. Bibliographies and brief discussions are included. Of interest to structural engineers and architects.

BLEICH, FRIEDRICH

Buckling strength of metal structures. With the collaboration of Commander Lyle B. Ramsey. Edited by Hans H. Bleich. New York: McGraw-Hill Book Company 1952 508 p. 24 cm. (Engineering Societies monographs. Ralph H. Phelps, consulting editor) \$10.00 1865

Contents: Buckling of centrally or eccentrically loaded columns. The mathematical treatment of stability problems and the stability criteria. Buckling of centrally loaded columns by tension and flexure. Lateral buckling of beams. Built-up columns and columns of variable stiffness. The stability of trusswork. The effective length of compression members in trusses and the stability of rigid frame structures. Stability of axially compressed bars elastically supported at specific points. Local buckling of plate elements of columns. Rectangular plates with incompressible stresses. Stability of web plates of girders. Special problems in the design of ship plating. Author Index. Subject Index.

Note: The result of a planned effort sponsored by the Bureau of Ships of the United States Navy to assemble reliable data on the analysis of fabricated steel structures under compression loading. The literature of the subject has been surveyed, critically evaluated, and useful data and methods have been synthesized in form suitable for practical use by graduate engineers. Not only are the larger aspects of the subject, such as are mentioned in the chapter titles, covered, but there are also discussions of many small points, such as the safety factor in short columns as compared to long columns. The methods and formulas presented are particularly applicable to the design of ship hulls and other heavy structures. The book is not intended for use in the design of light structures such as airplane frames.

COX, GLEN NELSON AND OTHERS

Strength of materials. By Glen N. Cox, Frank J. Germano and John H. Bateman. New York: Pitman Publishing Corporation, 1951 408 p. illus. 24 cm. \$5.50 1866

Contents: Stress and strain. Materials testing and properties of materials. Riveted and welded joints. Thin-walled cylinders and spheres. Torsion. Shearing force and bending moment in beams. Simple stresses in beams. Combined stresses. Special beams and beams of two materials. Deflection of statically determinate beams. Stiff-

cally indeterminate beams. Columns. Fatigue of metals. Strains caused by impact and energy loads. Curved beams. Appendices. Moment-distribution method for continuous beams. Tables. Index.

Note: A clear explicit style and conciseness to recently published experimental results and to major U. S. A. building codes are features of this introductory textbook. Current building techniques, such as the making of welded joints by shielded arcs, have been taken into account. The theory of columns is discussed in the light of Kyler's. A rational explanation of column behavior, which appeared in 1944. Both the moment-distribution method and the theorem of three-moments for the solution of continuous beam problems are explained. A generous number of solved problems are included in the appendices.

DEN HARTOG JACOB PIETER

Advanced strength of materials. New York McGraw Hill Book Company Inc., 1952 379 p. illus. 24 cm. \$8.50. 1867

Contents: Tension. Rotating shafts. Membrane stresses in shells. Bending of flat plates. Beams on elastic foundations. Two-dimensional theory of elasticity. The energy method. Buckling. Miscellaneous topics. Problems. Answers to problems. Index.

Note: A textbook designed for engineering college students who have completed an introductory course in strength of materials. The author describes it as an intermediate book designed to bridge the gap between elementary texts and advanced treatises on elasticity. It has been developed from material used in two courses offered to senior and graduate students at Massachusetts Institute of Technology.

DEN HARTOG JACOB PIETER

Strength of materials. New York McGraw Hill Book Company Inc., 1949 323 p. illus. 24 cm. \$5.00. 1868

Contents: Tension. Torsion. Bending. Compound stresses. Deformation of beams. Special beam problems. Columns and curved beams. The energy method. Buckling. Experimental elasticity. Problems. Answers to problems. List of formulas. Index.

Note: An introductory textbook for engineering college students who have completed an introductory course in mechanics. Though intended for use as a short course, the author has included more material than can be taught in such courses, thus giving instructors choice of material. Special features include: full treatment of the Mohr's circle method for stresses and also for moments of inertia and stresses, the use of coefficient formulas in the solution of beam problems, and brief accounts of the principles of photoelastic techniques and stress gaps. The author is Professor of Mechanical Engineering in Massachusetts Institute of Technology.

FREUDENTHAL ALFRED M

The inelastic behavior of engineering materials and structures. New York John Wiley & Sons Inc. 1950 587 p. illus. 23 cm. \$9.50. 1869

Contents (abridged): Part A. The structural aspect of inelastic behavior. The structure of matter. Structural theories of deformation. Part B. Mechanics of inelastic deformation. Mechanical relaxation. Linear behavior. Plasticity. Work hardening of polycrystalline metals. Creep and relaxation. Inelastic behavior under dynamic conditions. Fracture. Rheological behavior of suspensions and gels. Part C. Applications of the mechanics of inelastic behavior. Plasticity. Work hardening and creep. Author Index. Subject Index.

Note: A contribution of the author of considerable importance to the understanding of the behavior of engineering materials when they are strained beyond the elastic limit. The subject has application to such techniques as the milling of metals, the drawing of wires, the design of structural parts as to be void failure by fracture and creep. Basic physical principles are presented in terms of the Boley stress are emphasized, but there are frequent references to applications and testing methods. The book was developed from notes prepared for graduate courses at the University of Illinois, and its audience is graduate engineering students and practicing engineers.

FROCHT MAX MARK

Strength of materials a first course. New York The Ronald Press Company 1951 493 p. illus. 24 cm. \$6.00. 1870

Contents: Basic concepts. Statistically determinate stresses in tension and bending. Statistically determinate stresses due to internal pressure

and torsion. Basic concepts of stress and strain distributions. The states of stress and strain at a point. The significance of static stresses and strains in design. Photoelastic patterns. Shear and bending moments. Stresses in symmetrical beams. Failure under static and alternating stresses. Torsion in circular shafts. Deformation of beams. Statistically indeterminate beams. Columns and curved beams. Riveted joints and nonhomogeneous beams. Appendices. Index.

Note: (1344) An engineering college textbook written by well-known authority in photoelasticity and other methods of experimental stress analysis. The author has taken particular pains to emphasize the practical aspects of the subject and to describe contemporary methods. Among the numerous illustrations are a number of photographs of stress patterns obtained by photoelastic techniques. The book supercedes the text of the same title written by the author and M. C. Higgs, published in 1938. Only one chapter has been carried over from that book without extensive revision.

GRINTER, LINTON ELIAS

Theory of modern steel structures. Revised edition. New York The Macmillan Company 1949 2 vol. illus. 24 cm. Vol. I, \$5.00. Vol. II, \$5.25. 1871

Contents: Vol. I. Statistically determinate structures. Introduction. The theory of stress analysis. Industrial buildings. Industrial loading beams. Truss bridges—dead loading—live loading—wind loading. Lateral and partial bracing of beams. The plate girder. Office and commercial buildings. Wind stresses in tier buildings. Index. Vol. II. Statistically indeterminate structures and space frames. Analysis and design of indeterminate structures. Framed structures in space. Deformation of structures. Classical methods of analysis of indeterminate structures. Analysis of continuous frames by moment distribution. Analysis of continuous frames by balancing and carry-over. Influence lines and successive moment curves for continuous, movable and long-span bridges. Analysis of arches and chord ringed. Index.

Note: (1346) A successful introductory textbook for engineering colleges. It is used also for self-instruction and review by practicing engineers. Addressed to those who are preparing for courses in structural engineering, it provides not only reliable equations of modern methods of stress analysis and structural design but also, numerous outstanding names and structures in the development of structural engineering and pictures ancient and modern structures. Both graphical and algebraic methods of analysis are explained. Important revision and additions were made in preparing this edition.

HARRIS CHARLES OVERTON

Elementary structural design. Chicago American Technical Society 1951. 163 p. illus. 29 cm. \$4.90. 1872

Contents: Fundamentals. Equilibrium. Combs of an area. Moment of inertia. Shear stress and strain. Beams. Beams of standard section. Deflection of beams. Statistically indeterminate beams. Reinforced-concrete floor slabs. Bending combined with tension or compression. Compression members. Structural connections. Answers to problems. Index.

Note: A home-study text that is exceptionally well written and well organized. The discussions are full and clear, and the author has included a generous number of worked examples. There are many illustrations—most of them diagrams—and also practice problems and review problems.

HARRIS CHARLES OVERTON

Strength of materials. Chicago American Technical Society 1949 212 p. illus. 29 cm. \$4.90. 1873

Contents: Introduction to strength of materials. Equilibrium of bodies. Simple stress and strain. Control of an area. Moment of inertia of area. Riveted, welded, or welded joints. Stresses in beams. Bending moment combined with tension or compression. Slabs subjected to torsion. Bending moment combined with torque. Composite members. Repeated stress. Answers to problems. Index.

Note: An elementary text designed to acquaint engineering students with the fundamental principles and methods of analyzing and determining the stresses and strains in engineering structures, and the methods of applying this knowledge to the design of structures and machine members. Special attention is given to the analysis and design of welded joints. The liberal use of worked examples, solved problems, summaries, and illustrative diagrams makes the volume suitable for self-instruction as well as for study in organized classes.

analysis of torsional rigidity by A. Wahlström. Stress fields of elastically asymmetric shafts in torsion and related fields, by H. Fritzsche. Stress analysis in elastic-plastic structures, by W. Prager and P. A. Smeets. Elastic plastic straining (abstract) by M. K. Besseler. A graphical method for solving problems in plane plasticity by W. Cohn. On stress concentrations in plane plastic flow by E. H. Lee. References to papers by L. H. Donnell and others, listed.

Note: Collected in this volume are the papers presented at the third Symposium in Applied Mathematics, held at the University of Michigan in June, 1949. The papers illustrate applications of advanced mathematics to problems in elasticity and plasticity and in many instances describe recently developed methods of attack. Aside from four exceptions, the texts are printed in full and are usually accompanied by bibliographies.

TIMOSHENKO STEPHEN AND J. N. GOODIER
Theory of elasticity. Second edition. New York: McGraw-Hill Book Company Inc. 1951. 506 p. illus. 24 cm. (Engineering Societies monographs. Ralph H. Phelps, consulting editor) \$9.50 1887

Contents: Introduction. Plane stress and plane strain. Two-dimensional problems in rectangular coordinates. Two-dimensional problems in polar coordinates. The photoelastic method. Stress energy methods. Two-dimensional problems in curvilinear coordinates. Analysis of stress and strain in three dimensions. General theorems. Elementary problems of elasticity in three dimensions. Torsion of prismatical bars. Bending of prismatical bars. Axially symmetrical stress distributions in solid of revolution. Thermal stress. The propagation of waves in elastic solid media. Appendix: The application of finite difference equations in elasticity. Author index. Subject index.

Note: (24140) In this book the fundamental theory of the theory of elasticity are presented, together with solutions of special problems and descriptions of approximate and experimental methods for solving elasticity problems. Because practical applications of the theory of elasticity are emphasized, consideration of matters of chiefly theoretical interest is omitted. Bibliographical references are given in footnotes for the benefit of those desiring to study special problems in more detail. The second edition is expanded by nearly 100 pages in comparison with the 1914 edition. The sections in the first edition dealing with the photoelastic method and thermal stress have been expanded and made into separate chapters presenting similar material and methods not given in the first edition. An appendix has been added on the method of finite differences and its applications, including the relaxation method. New sections and paragraphs have been incorporated into other chapters.

VAWTER, JAMISON AND JAMES G. CLARK
Elementary theory and design of flexural members. New York: John Wiley & Sons Inc., 1950. 215 p. illus. 23 cm. \$4.50. 1888

Contents: Pure bending in homogeneous, symmetrical sections. Bending in nonhomogeneous, symmetrical sections. Elementary design of steel beams and girders. Elementary design of steel columns with bending. Elementary design of reinforced concrete beams and columns. Bending in unsymmetrical sections. Bending in special beams including those with thin webs. Appendix: Illustrative design of floor or timber, timber.

Note: An engineering college textbook intended for use in later years of course offered to students who have had basic courses in strength of materials. In effect it is the first book in practical design and as such is of potential interest to architects, practical builders, etc., who need an introduction or refresher on the engineering aspects of elementary structural design. The authors are Professors of Civil Engineering at the University of Illinois.

WESTERGAARD HAROLD MALCOLM
Theory of elasticity and plasticity. Cambridge, Mass.: Harvard University Press, 1952. 176 p. illus. 22 cm. (Harvard monographs in applied science. No. 3) \$5.00 1889

Contents: Scope. Historical notes. Stress. Strain. Hooke's law. The basic equations of elasticity and the simplest possible laws of plasticity. Stress potential and applications to hollow cylinders and spheres, beams, bars, and thermal stresses. Displacement vector, thermal gradient, and applications involving effects of angle forces. Index of authors. Index of subjects.

Note: The theory of elasticity (with some references to plasticity) is presented very concisely and in a fairly advanced level in this book. Considerable attention is given to the historical aspects, not

only in the chapter "Historical notes, but to some extent in other chapters also. The author himself is responsible for many advances in the application of mathematics to the solution of practical engineering problems involving elasticity and his book is the essence of lectures which he gave for many years at Harvard University where he was until his death Gordon McKay Professor of Civil Engineering.

WILLIAMS, CLIFFORD DAVID, AND ERNEST C. HARRIS

Structural design in metals. New York: The Ronald Press Company 1949. 596 p. illus. 24 cm. \$7.00. 1890

Contents: Introduction. Rivets, bolts and pins. Welding. Selection of sections. Connections. Plate girders. Trusses. Beams. Light gauge structural members. Fatigue of structural members. The rigid frame. Appendixes. Index.

Note: An engineering college textbook which has several interesting features. Equal attention is given to welding and to riveting as techniques for the joining of structural metals. The structural aluminum alloys are considered along with steel. The method of questions is to explain the design of structural elements and details rather than complete structures, thus enabling the student to acquire knowledge which is applicable to all types of structures from roof trusses to frames for airplanes. The appendix contains useful standard information and specifications.

CONCRETE CONSTRUCTION

AMERICAN SOCIETY OF CIVIL ENGINEERS

Design of cylindrical concrete shell roofs. Prepared by the Committee on Masonry and Reinforced Concrete of the Structural Division through its Subcommittee on Thin Shell Design. Adopted October 21 1951 New York: American Society of Civil Engineers 1952. 177 p. illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice. No. 31) \$5.00 1891

Contents: Introduction. Theory of shell design theories. Design procedure. Design examples. Long shells, simply supported. Design examples. Long shells, continuous over support. Design examples. Short shells simply supported. Design of transverse stiffeners. Design of continuity of shell and transverse stiffeners. Elastic stability of shells. Appendixes: References on the design of barrel shells. Theory. Methods.

Note: An authoritative manual with two important purposes: to facilitate the task of designing shells and to introduce the engineer to the mathematical theory of shell design. The first part on practical design runs to 99 pages and is supplemented by an 8-page bibliography. It contains numerous tables and charts which greatly reduce the amount of computation usually required in the design of the type of structures.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on use of pozzolanic materials in mortars and concretes presented at the first Pacific Area national meeting of the American Society for Testing Materials, San Francisco, Calif., October 10-14 1949 Philadelphia: American Society for Testing Materials, 1950. 203 p. illus. 23 cm. (American Society for Testing Materials. Special publication no. 99) Paper \$2.50 1892

Contents: Introduction, by T. E. Stanton. Pozzolanic materials and their use in concrete, by R. E. Davis. Pozzolanic use in concrete, by R. E. Davis. Experience with pozzolanic materials in concrete, by C. H. Scholer and E. L. Peyton. Effect of collection on natural pozzolans, by R. C. McNamee and others. Effect of the use of pozzolans treated with air-entraining agents upon the properties of concrete, by R. K. Davis and A. Klein. Summary of methods for determining pozzolanic activity, by W. T. Moran and J. L. Gilchrist.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on the Identification and classification of soils. Presented at the fifty third annual meeting, American Society for Testing Materials, Atlantic City N. J., June 29 1930 Philadelphia American Society for Testing Materials 1931 91 p. illus. 23 cm. (Special technical publication no. 113) Paper, \$1.65

1899

Contents: Introduction, by G. W. McAlpin. Identification and classification of soils—on apparatus and statement of principles, by D. M. Beattie. A standard classification of soils as proposed by the Bureau of Reclamation, by E. A. Aldrich-War. Discussion of the classification of highway subgrade materials initiated by the Highway Research Board, by W. F. Abernethy. Soil classification for highway purposes, by E. A. Wells. Soil series named as basis for interpretive and classification for engineering purposes, by E. J. Fall. General discussion.

Note: These papers describe the techniques and procedures which are most widely used at present by engineers for identifying and classifying soils. The purpose of the symposium was to bring the classification of soils in accordance with the acceptance of standard methods. The authors are experts in the field of soil mechanics and have had wide experience with the particular method described.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on surface and subsurface reconnaissance. Presented at the fifty fourth annual meeting, American Society for Testing Materials, Atlantic City N. J. June 19 1931 Philadelphia American Society for Testing Materials, 1932 228 p. illus. 23 cm. (Special technical publication no. 122) Paper \$3.00.

1900

Contents: Introduction, by G. W. McAlpin and L. C. Gray. Interfacing geologic maps for engineers, by E. R. Eckel. Engineering implications of geological reconnaissance in the Flaming area—deserted river basins, by E. A. Aldrich-War and J. D. Dooling. Preliminary reconnaissance operations in arctic regions, by L. A. Moss and A. M. Johnson. Properties of earth engineering and maps for dams, by E. H. Thompson. The engineer looks at geology, by R. L. Chubb. Application of aerial photographs to preliminary engineering and surveys, by E. D. Miles. The presentation of an engineering map, by W. J. G. Jones and E. R. Lindell. Road classification on geology and geology and air photo application. Earth-reactivity tests applied to subsurface reconnaissance surveys, by R. W. Moore. Earth-reactivity geophysical method as applied to engineering problems, by H. L. L. Scherer. Geophysical measurements of the depth of weathered material, by D. Whistler. The practical value of an earth reactivity method in solving engineering problems, by W. F. Abernethy. Application of seismic methods to foundation problems, by A. M. Johnson and E. H. Wadley. Experience with geophysics in New York State, by F. R. Hild. Seismology applied to shallow wave research, by D. Lindell. Reactivity reconnaissance, by L. Kasser. Final discussion on geophysical methods, including reactivity and seismic method. General discussion.

Note: These papers describe and evaluate the geological, geophysical, and photogeomorphic techniques which may be applied to determining the physical characteristics and structure of surface and subsurface soils. The material has been presented by experts in the above mentioned fields for the guidance of civil engineers concerned with the location, design, and construction of engineering works. Bibliographies are included.

CHILLIE ROBERT DUNNING

Pile foundations theory—design—practice. New York McGraw Hill Book Company Inc., 1931 680 p. illus. 24 cm. \$14.00

1901

Contents (abridged): Basic principles of pile foundations. Pile-driving methods. Hammer tests, strains, and driving stresses. Driv-

ing equipment. Selection of pile and methods of driving. Pile capacities and spacing. Structural design of piles. Wood piles. Concrete and pipe piles. Caisson-type piles and caissons. H. piles and other metal piles. Sheet piling. Determination and preservation of pile settlements. Settlement of soils. Pile load tests. Failure of pile foundations. Tables: Group 1—Temporary compression figures. Group 2—Operating data on hammer, tractor, and related equipment. Group 3—Pile data. Group 4—Soil data. Group 5—Jacking equipment data. Appendixes: Numerical examples using assumed data. Numerical examples using field data. Summary of comparative results of tests. Applications of methods of determining pile loads under various loadings. Application of method of determining present concrete piles. Pile Inspector's reports and studies. Standard specifications. Bibliography.

Note: A practical book which contains so much information that it is of use to an engineering handbook. It is useful not only in understanding and designing pile foundations but also in building them and protecting them after they are built. There are wide ranges of engineering data and an adequate number of illustrations. The classified bibliography includes a list of caissons of piles and pile-driving equipment. The author is associated with the Stone & Webster Engineering Corporation.

CRUM, ROY WINCHESTER, AND OTHERS, editors

Soil exploration and mapping, presented at the twenty-ninth annual meeting, 1949 Highway Research Board Division of Engineering and Industrial Research, National Research Council. Editorial staff Roy W. Crum, Fred Burggraf, W. N. Carey Jr. Washington, D. C. Highway Research Board, 1950. 121 p. illus. 25 cm. (Highway Research Board. Bulletin no. 28) Paper \$1.50.

1902

Contents: Introduction, by F. R. Chubb. A system for designing maps for soil exploration and mapping, by D. R. Lander. Drilling patterns significant to geologic identification of soils and rocks, by M. F. Davis. Steps for construction materials, by F. E. Ryan. Development of geophysical methods of subsurface exploration in the field of highway construction, by R. W. Moore. Influence of topographic position in geologic identification of permeability, by R. E. Frost and G. W. Moore.

Note: The papers published in this bulletin bear on the status of geological and agricultural soil mapping in the United States of America and also describe methods whereby engineers may obtain more geological and soil maps and related sources of information such as aerial photographs information that is valuable in making terrain exposures in advance of soil building. Careful tables in the introduction supplement information on soil surveys published in the Bureau's Bulletin no. 22, described below.

CRUM, ROY WINCHESTER, AND OTHERS, editors

The use of agricultural soil maps and the status of agricultural soil mapping in the United States, presented at the twenty-eighth annual meeting, 1948 of the Highway Research Board, Division of Engineering and Industrial Research, National Research Council. Editorial staff R. W. Crum, Fred Burggraf, W. N. Carey, Jr. Washington D. C. Highway Research Board 1949 128 p. illus. 25 cm. (Highway Research Board. Bulletin 22) Paper \$1.80.

1903

Contents: Review of the problem and selected bibliography by F. R. Chubb. Status of county agricultural soil mapping in the United States—calculation by states and counties. Use of agricultural soil maps in mapping and surveys, by L. D. Hicks. Significance of the soil survey report in the selection and preliminary assessment of sites for airplane landing strips, by G. E. Johnson.

Note: The cover-title of this bulletin is "Engineering use of agricultural soil maps." It gives information to enable highway engineers to make use of county soil maps and the soil profile method as sources of engineering data for soil survey work. The bulletin by states and counties shows the present status of agricultural and

Strength, volume change and sulfate resistance of mortars containing Portland pozzolana cements, by R. E. Davis and others. Studies of some method of avoiding expansion and pattern cracking associated with the alkali aggregate reaction, by W. C. Lynch. Studies of use of pozzolans for counteracting excessive concrete expansion, resulting from reactions between aggregates and alkalies in cement, by T. E. Swenson.

Note: Most of the papers in this volume relate to work done in the western and middle western states in the United States, particularly California, Colorado, Kansas, and Illinois. The first presents a general review of present-day knowledge of pozzolans, their effect upon some of the properties of concrete and their use in concrete construction. The papers that follow deal in more detail with various aspects of the topic. Most of them contain bibliographies.

BAUER EDWARD EZRA

Plain concrete. Third edition New York McGraw Hill Book Company Inc., 1949 441 p. illus. 24 cm. \$6 50 1893

Contents: Part I. Introduction. Standard Portland cement. Special cements. Mineral aggregates, admixtures, and water. Theories of proportioning. Applied properties. Factors affecting concrete strength. Making of concrete. Mixing, finishing, and curing concrete. Drivability workability and displacement. Field control of concrete. Foundations. Shaping, Tension. Part II. Instructions for performance of laboratory tests. Appendixes. Index.

Note: (1949) A standard engineering college textbook on plain (as contrasted to reinforced) concrete. It is a combination of descriptive material and fundamental engineering information. The descriptive matter gives the book some value as general reference book on the subject for home owner, small contractors, etc. In the present edition corrections of several very important developments have been introduced. A considerable part of the older matter has been revised, and many new illustrations have been added. Revised specifications have been substituted for those which have been superseded.

DALZELL, JAMES RALPH AND GILBERT TOWNSEND

Concrete block construction for home and farm. Illustrations by Arthur E. Burke. Chicago American Technical Society 1952 216 p. illus. 22 cm. \$2 75 1894

Contents: Mortar types, properties, and tests. Concrete characteristics and mixing. Concrete formwork. Design and construction of footings. Foundations and waterproofing. Concrete masonry. Index.

Note: (1917?) A simple manual for farmers and other persons who desire practical information on the building of farm buildings, dwelling houses, and other small structures of concrete blocks. It is based on the authors' own experience. *Masonry simplified*, Chicago 1948, 2. The numerous illustrations include reproductions of many drawings showing structural details in three dimensions. Specific information is given on waterproofing mortar waterproofing, etc., as well as on laying up the blocks.

KOMENDANT AUGUST E.

Prestressed concrete structures. New York McGraw Hill Book Company Inc., 1952 261 p. illus. 24 cm. \$6.00 1895

Contents: General considerations. Physical properties of materials used for prestressed concrete structures—steel—concrete—dilatation—Theory of design of prestressed structures—designs of forces and stresses in prestressed structures due to shrinkage and plastic flow—method of design—illustrative problems—prestressed trussed beams—illustrative problems—prestressed trussed girders—prestressed shafts—illustrative problems. Representative prestressed structures. Appendixes. Index.

Note: The heart of this book is the 120-page third chapter, in which the design of prestressed concrete structures is presented in practical manner for the use of graduate engineers. The two preliminary chapters present background information, and the final chapter contains illustrations and descriptions of prestressed concrete structures of various types such as bridges, dams, and tanks. There are 120 figures and occasional footnote references to the source literature, mostly German.

LAROR, GEORGE ELWYN

Basic reinforced concrete design a problems method approach. New York The Ron-

ald Press Company, 1950 340 p. illus. 24 cm. (A volume of a series in civil engineering, Advisory editorial committee Lorenz G. Strub and others) \$5.50 1896

Contents: Introduction. Review. Road, street, canal, tunnel and anchorage. Columns. Cantilever. Bridges—design of beams and girders. Bents. Two- and flat slab. Earth. Footings. Appendix. Index.

Note: An introductory textbook for college students of civil engineering. It is organized for easy comprehension. In most of the chapters terms such as "learning moment" are explained in a very clear and the definitions are followed by series of problems examples of typical problems in reinforced concrete design. Problems for students to solve are included. The illustrations include portraits of engineers who have made substantial advances in reinforced concrete design. The author is Professor of Structural Engineering in Ohio State University.

UNITED STATES. BUREAU OF RECLAMATION

Canal linings and methods of reducing costs. Washington D. C. Government Printing Office 1952 69 p. illus. 23 cm. Paper \$2.25 1897

Contents: Introduction. Types of canal linings. Concrete linings. Earth-linings. Asphaltic linings. Earth-linings. Methods of reducing costs. Standardization of canal linings. Justification for canal linings. Survey investigations. Appendix: Canal linings installed by the Bureau of Reclamation since 1946. Appendix: Summary of survey data.

Note: Methods of reducing costs of concrete canal linings and development of new types of linings are possible technical achievements of the United States Bureau of Reclamation. The Bureau examines and reports up to date and reliable information on the latest canal lining program, presents the results of laboratory research, field investigations, economic studies, and investigations of savings concerning devices, describes new developments in equipment and methods of constructing lined canals, particularly those of small size, and gives several conclusions and recommendations as to the value of various types of linings and their suitability for use under various field conditions.

SOIL MECHANICS AND FOUNDATIONS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on consolidation testing of soils. Presented at the fifty fourth annual meeting, American Society for Testing Materials Atlantic City N. J., June 18 1951 Philadelphia American Society for Testing Materials 1952 109 p. illus. 23 cm. (Special technical publication no. 126) Paper \$1 75 1893

Contents: Introduction, by D. M. Burdette. Report of consolidation tests with soil, by J. R. Thompson and L. A. Palmer. Compression and related properties of loessial soils, by W. G. Kelle and H. J. Gibbs. Settlement of railroad embankments caused by the Morgan Roadway, Louisiana, by W. G. Kelle and C. L. Meacham. Aids in the interpretation of the consolidation test, by R. F. Dornes. A rapid technique of consolidation testing, by R. H. Karst. The effect of temperature on the consolidation characteristics of remolded clay, by F. M. Fine. Observed mechanisms of settlement of saturated clay, by R. L. Barber. The application of consolidation test methods in consolidation testing, by D. M. Burdette.

Note: These papers describe and evaluate the various tests currently employed to determine the consolidation characteristics and behavior of soils under stress. The material has been prepared by professional civil engineers and is based both on laboratory research and practical experience in the field. As with most of the American Society for Testing Materials symposia, the discussions following each paper constitute a vital part of the presentation.

and masonry structures. An introduction to the science of foundations. The Whole House. Appendixes: Specifications (including payments). Legal aspects of underpinning and foundation work. Rates of pay (theory of) of terms used in underpinning. Index.

Note: (1447) This work has been the standard engineering treatise on the support of buildings and other existing structures while adjacent construction is going on since the publication of *Underpinning* in 1917. The title was changed to *Underpinning* in the edition published in 1931. The major changes in the present edition is the addition of the chapter on the raising and moving of existing structures.

SOWERS, GEORGE B., and GEORGE F SOWERS

Introductory soil mechanics and foundations. New York The Macmillan Company 1951 284 p illus. 24 cm. \$4.75 1909

Contents: The nature of soils. The physical properties of soils. Soils and soil deposits. Seepage, drainage, and frost action. Foundations. Deep foundations. Problems in earth pressure. Construction of fills and embankments. Stability of earth masses. Underground investigations. Index.

Note: A short, simplified treatment suitable for engineering college students and graduate engineers. It is very easy to read and gives a knowledge of the subject. Little mathematics is used and applications are stressed. The chapters are supplemented by good lists of references for those who need further information on specific topics.

SPANGLER, MERLIN GRANT

Soil engineering. Scranton International Textbook Company 1951 458 p illus. 24 cm. \$7.00 1910

Contents: Introduction. The origin and nature of soil. The soil profile. Soil structure and texture. Soil density. Soil surveying and sampling. Soil water. H. geologic masses and the cultural fraction. Capillary water. Groundwater water and seepage. Flow nets and seepage forces. Soil-water consistency. Engineering and classification. Frost action in soil. Gravity soil stabilization. Thickness of flexible pavements. Stress distribution in soil. Consolidation and settlement of structures. Bearing capacities and strength. Stability of slopes. Embankments, levees, earth dams. Problems of retaining walls. Piering capacity. Piles and pile-driving formulas. Underground conditions. Index.

Note: A comprehensive introduction to soil topics that are of interest in civil engineering. The scope is wider than is usually embraced in soil mechanics, and the style is less technical than is typical of the basic works on soil mechanics. The book is organized as a college text. However, some practicing engineers may find it useful as a simple introduction to such topics as permeability, especially in view of the selected reference lists that accompany the chapters. The author is Research Professor of Civil Engineering at Iowa State College.

TREYETHEN, JOSEPH MUZZY

Geology for engineers. New York D Van Nostrand Company Inc. 1949 620 p illus. 24 cm. \$6.00 1911

Contents: Geology and engineering. Minerals. Rocks. An introduction. Igneous rocks. Rock weathering and the regolith. The combined elements. Metamorphism and the metamorphic rocks. Geological structures. Geological field work. Geophysical applications in engineering. Earth history. Geologic maps. The atmosphere. Subsurface water. Earth movements. Earthquakes. Strata. Dams and reservoirs. Soil erosion. Shrinkage. The work of glaciers. Geologic interpretation of topographic maps and aerial photographs. Appendixes: Sources of geologic information. The physical properties of some common rock types. Tables for the identification of some of the common minerals. Author index. Subject index.

Note: In this college textbook the aim is to give the student broad background, which will enable him to understand the geological problems involved in construction work, foundation design, etc.; hence the highly developed geological applications of engineering, such as soil mechanics, are touched upon only incidentally. The book is well organized and clearly written. The illustrations are as effective as the text in relating geology to engineering.

TSCHEBOTARIOFF, GREGORY P

Soil mechanics foundations and earth structures an introduction to the theory and

practice of design and construction. New York McGraw Hill Book Company, Inc. 1952 655 p illus. 24 cm. (Civil engineering series, Frederic T Mavis, consulting editor) \$7.50 1912

Contents: Special features of foundation and soil engineering. The formation of soils, geology, agricultural soil science, and civil engineering. Deformation and stress related to the properties of the solid soil particles. Deformation and stress related to the density and to the consistency of soils. Capillary phenomena. Permeability of soils. Ground-water movements. Frost action. The consolidation of soils. The shearing strength and the shearing deformation of soils. The stability of vertical cuts and of slopes. The stress distribution in soils. The bearing capacity of soils. Lateral earth pressure. The compression and the stabilization of soils. Expansion and classification of soils. The selection of suitable type of foundation. Spread foundations. Knowledge. Pile and caisson foundations. Sheet piling. Underpinning. Earth-retaining structures. Cofferdams. Tunnels and conduits. Some soil engineering aspects of dam construction. Effects of vibratory and of slow repeated loading of soils. Machinery foundations. Some soil engineering aspects of highway and airport construction. References. Name index. Subject index.

Note: An engineering college textbook in which the theoretical knowledge of soil mechanics proved in the last few decades is applied directly to practical problems in civil engineering. Although the main theme is practical application of the theoretical knowledge, the author makes it clear that the theoretical knowledge is not complete and that many problems in foundation design must still be solved empirically. Much attention is given to the techniques of field and laboratory testing. Many instances of structural failure due to the response of soils are mentioned. The style is unpretentious and the book is well illustrated. The bibliography runs to 448 references. The author is Professor of Civil Engineering at Princeton University.

BUILDING

ARCHITECTURAL RECORD

Time-saver standards a manual of essential architectural data for architects, engineers draftsmen builders and other technicians. Edition no 2 New enlarged edition. New York F W Dodge Corporation, 1950 884 p illus. 28 cm. \$12.50 1913

Contents: (abridged) Dimensions of the human figure. Mathematics. Weights of materials. Steel framing details. Structural steel systems. Roof memory. Wood factory construction. Dry wall construction. Windows. Profiles. Doors. Stairs. Residential foundations. Household kitchens. Bathrooms. Household closets. Apartment planning. Hotel bedrooms. Restaurant and bar design. Office and loft buildings—planning and equipment. Retail shops. Laundry scrubbing. Railroad station details. Non technical design. Chimney planning. Theater lighting. Community building planning. Hospitals. School design. Neighborhood shopping centers. Architectural acoustics, air conditioning and design data. Uniform plumbing code for housing. Residential lighting systems. Stage lighting. Restaurants for department stores. Index.

Note: (1244) A standard reference book of data used in architecture, draftsmen, builders, etc. Specific information is given on dimensions, planning and other architectural or engineering aspects of hundreds of building elements, types, techniques, etc. The material included ranges in complexity from domestic details of household building to complete floor plans of hospitals. It is arranged under specific main subheadings, of which a few typical ones are given in the detailed contents above. The first edition was published in 1946. This edition contains all of the material published in the original edition and 241 pages of added material. All of the latter has been previously published in *Architectural Record*.

BURBANK, NELSON LINCOLN

House construction details. Third edition. New York Simmons-Boardman Publishing Corporation, 1952 378 p illus. 28 cm. \$4.95 1914

Contents: Floor plans—sets of house plans. Excavations—foundations—basement foundations. Walls—gliders—joists—sub-flooring. Outside

wall construction. Inside walls—wall sheathing—ceiling joists. Roof construction—lay construction—siding. Carports and porches. Exterior wall covering, latrines, all covering—interior tiles. Stair construction. Windows. Doors. Hardware. Chests—shelves—built in equipment. Finished floors. Chimneys and fireplaces. Scaffolds and ladders. Gases. Insulation. Heating—air conditioning. Paints and finishing. Modern building materials. Prefabrication. Term buildings—equipment. Better detail plans. Index.

Note: (3413) The outstanding feature of this practical manual for professional and amateur builders is the numerous scale drawings, diagrams, and photographs. Rich illustrations typical methods, typical equipment, details, and construction. The word text is concise and to the point and is limited to explanations of general principles. The book is intended to serve as a guide and idea book in the construction of new houses, the alteration of stock plans, and home remodeling. In this edition new material on prefabrication methods, building materials, heating, and insulation has been added. Approximately 70 plates of construction details have been added to the illustrative matter.

BURKE, ARTHUR E. AND OTHERS

Architectural and building trades dictionary by Arthur E. Burke J Ralph Dalzell, and Gilbert Townsend. Edited by Pearl Jeal son. Chicago: American Technical Society 1950. 377 p. illus. 22 cm. \$6.00. 1915

Contents: Preface. Dictionary. Memory index. Appendix. Abbreviations. Styles of home architecture. Legal terms.

Note: An illustrated dictionary for architects, builders, carpenters, and contractors. Words and terms are defined briefly and clearly; pronunciation is indicated for selected words. The 346 pages of the dictionary proper contain 411 detailed illustrations. Several, some of them full page size, as for example those for bats, chimney lining, door designs. A useful book for those serving practical details of words, terms, and phrases in the building trades.

FRANKL, LEE

How to expand and improve your home the complete step-by-step illustrated guide for expanding altering and modernizing your home. By Training Thru Sight Associates Lee Frankl. New York: Simmons-Boardman 1951. 245 p. illus. 28 cm. \$5.95. 1916

Contents: (abridged) Analysis of family needs. Finances. Finish the attic. Build shed dormer. Create storage area. Divide room. Build porch and sun deck. Enclose the porch. Modernize the kitchen. Finish the cellar. Build garage and driveway. Finishing with metal. Heating. Add wing and bathroom. Sound absorbing window treatment. Glossary of common building terms. Index.

Note: A book of "projects" rather than comprehensive work on home remodeling. Its outstanding quality is an exceptionally high number of illustrations. The pocket book claims 1,225 drawings. Most of the illustrations are reproductions of his drawings, but few have been made from photographs. The book is intended mainly for persons planning to do the work on their own homes. There is no bibliography.

GRAF DON

Data sheets thousands of simplified facts about building materials, planning, and construction. Second edition revised and enlarged. New York: Reinhold Publishing Corporation, 1949. 809 p. illus. 18 cm. \$8.50. 1917

Note: (3413) A manual of concise descriptions and tabulations of data on building materials and practices. Among the new entries in this edition are: stone on radiant heating; stucco and radiograph joints; floor block insulation; insulation styrofoam plastic; flooring, asphalt shingles, cork block insulation; noise reduction; current uses of glass block; and underlaid lighting of swimming pools. The layout of the pages has been changed and manufacturers' names have, in the main, been turned in. List of acknowledgments at the front of the book. The book has been expanded, but it has not yet been made according to good indexing principles.

HAUF, HAROLD DANA, AND HENRY A. PRISTERER

Design of steel buildings. Third edition. New York: John Wiley & Sons, Inc., 1949. 280 p. illus. 22 cm. \$5.50. 1918

Contents: General considerations. Reactions, stress and bending moment. The design of beams. Riveted connections. Plate girders. Columns and struts. Roof trusses. Wind stresses in tall buildings. Weld construction. Building design project. Appendix. Index.

Note: An introduction to the basic principles of structural steel design written for students of architectural engineering and for the guidance of the beginning architect or engineer. The book deals specifically with the structural design of such types of buildings as apartment houses, clubs, schools, etc. The treatment stresses a knowledge on the part of the reader of the strength of materials and strength of materials. Little change has been made in the scope or arrangement of the new edition. However, chapter on wind construction has been added, codes of practice and specifications have been brought up to date and the chapter on the design of beams has been extensively revised.

KELLY, BURNHAM

The prefabrication of houses a study by the Albert Farwell Bemis Foundation of the prefabrication industry in the United States. New York: The Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons Inc. 1951. 466 p. 23 cm. \$7.50. 1919

Contents: Definitions. The development of the industry 1919-19. Great opportunities and disadvantages. The history of prefabrication. Introduction. Management. Design. Production. Distribution. Marketing. Conclusion. Appendix: Prefabrication. Companies and people visited. List of participants. Associated bibliography. Index.

Note: An authoritative and detailed analysis of the history and contemporary status of the prefabricated housing industry in the United States of America. The main emphasis is on the mechanical housing aspects of the industry rather than on manufacturing and structural details. Nevertheless, enough is included on structure to make the book worth reading by anyone interested in the technical aspects. A considerable part of the material in the volume is based on a field survey of the industry in the United States since World War II.

PIELAN VINCENT BALDWIN

Care and repair of the house. Washington, D C: Government Printing Office, 1950. 209 p. illus. 23 cm. (United States National Bureau of Standards. VBS circular 489) Paper \$0.50. 1920

Contents: Inspection of the house. Foundation walls and basement. Exterior walls. Interior walls. Roofs. Floors and lower ceilings. Doors and windows. Weatherstripping and insulation. Basements and venting. Plumbing and water system. Painting and varnishing. Electricity. Appendix: Cleaning the house. Minor care. List of books and supplies. Check list. Selected references. Index.

Note: Superseding publication 11115, this circular is both an enlargement and complete revision of the original edition. It takes into consideration the introduction of new building materials and construction methods and advances in the design of structural equipment since the earlier edition was published in 1911. The purpose of the work is to assist homeowners and other persons who are responsible for the care and repair of dwelling houses. Maintenance, repair and improvement operations are covered. Regular inspection of all parts of the house is recommended, and a guide for such inspection is provided.

PLUMMER HARRY CUSTER

Brick and tile engineering handbook of design. Washington D C: Structural Clay Products Institute, 1950. 392 p. illus. 24 cm. \$5.00. 1921

Contents: Origin and manufacture. Molecular construction. Classification, size, color and texture. Properties of structural clay products. Mortar. Properties of brick and the wall. Design of brick and the wall. Brick and the wall sections and details. Design of chimneys and fireplaces. Freighting and firing. Construction of brick and the wall. Bonds and patterns. Bibliography. Index.

Note. A manual of description and engineering data on brick and structural tile. Manufacturing operations are outlined in the first chapter but all the remaining chapters are devoted to discussion and to data useful to architectural engineers, architects, building contractors, and other persons who have practical interests in building with brick and structural tile. There is fair number of illustrations, the majority of which depict standard structural details. The bibliography covers building codes, specifications and standards, as well as selection of books and articles.

RAMSEY CHARLES GEORGE AND HAROLD REKVE SLEEPER

Architectural graphic standards for architects, engineers decorators builders and draftsmen. Fourth edition. New York John Wiley & Sons, Inc., 1951 614 p. illus. 30 cm. \$11.50. 1922

Note: Since 1922, when the first edition appeared, this reference book has been accepted among architects, builders and draftsmen in the U. S. A. and elsewhere as standard authority on the structural details, symbols, and nomenclature of contemporary building materials, building details, and practices. In this edition it has been almost completely revised. About 65 percent of the plates are new and of the remainder 17 percent have been revised. The latest alone now run to 48 three-column pages.

RICHEY, HARRY GRANT

A reference handbook for construction engineers, architects, builders, superintendents of construction and building construction foremen New Orleans, La. H. G. Richey 1951 Distributed by Simmons-Boardman Publishing Corporation. 1640 p. illus. 18 cm. \$9 95. 1923

Contents (abridged): Personality and duties. Foundations. Waterproofing. Building plans. Rooms, details and the work. Brickwork, architectural terra cotta, brick paving. Tiles and concrete. Mortar and concrete. Concrete construction. Formwork and its protection. Iron, steel, sheet metal, and cast work. Carpentry and woodwork. Timber and lumber. Lathing and plastering. Plastering, varnishing, painting, and paper hanging. Plumbing, piping, sewage disposal. Heating and ventilation. Electric wiring and various mechanical equipment. Hydraulics, strength etc., of materials. Dairying, laying out work. Squares, cubes, areas, measurements. Useful information, receipts, etc. Glossary of engineering, architectural and trade terms. Index.

Note. A relatively new compilation that includes some information not found in the other handbooks of the kind. Although much of the information is what might be called "standard data," some of it is unusual in handbooks of this type. The miscellaneous material covers such matters as how to clean paint, how to hang window sashes with ease, the best height for planning stairs, and how to remove stains from concrete floors. The author was formerly connected with the United States Treasury Department in the construction of public buildings.

SEKIYE ELWYN EGGLESTON

Data book for civil engineers—Design. Second edition. New York John Wiley & Sons Inc., 1951 521 p. illus. 30 cm. \$10.00. 1924

Contents (abridged): Structural—general—concrete—rigid frames—steel—aluminum—widening—wood—plywood—foundations—basins for water. Bells. Earthwork. Roads. Railroad. Airports. Bridges. Dams. Docks and piers. Drainage. Sewage treatment. Industrial wastes. Water supply. Groundwater. Athletics fields. Outdoor swimming pools. Water.

— Specifications and costs. Second edition. New York John Wiley & Sons, Inc., 1951 506 p. illus. 30 cm. \$13.00. 1925

Contents (abridged): Contract documents. Site investigation. Structural specifications. Industrial buildings. Airports, roads, and railroads. Bridges. Docks. Dams. Drainage, sewers, sewage treatment and water supply. Groundwater. Athletics fields. Costs. Glossary. Specifications. Index. Costs Index. Glossary Index.

Note. (1440") A valuable reference book for the office engineer or civil engineer and for technical libraries frequented by civil engineers. It provides wide range of information useful in the design of buildings and engineering structures and in the preparation of bids and contracts on engineering projects. The first edition appeared in 1945-46 and consisted of three volumes, the third of which was devoted to field practice. A fair amount of new material—fully noted in the preface—has been added in the second edition of the present volume.

SIMMONS, EARL W., compiler

Home building and repair short cuts. New York Simmons-Boardman Publishing Corporation 1952 201 p. illus. 28 cm. \$4.50. 1926

Contents: Staking out, farm construction and foundations. Sills, girders, joists and subflooring. Walls and floor framing. Roof framing and key construction. Brickwork, masonry and chimneys. Plumbing, drainage and gas fitting. Electric wiring. Exterior finish. Railing. Carriage and porch. Interior finish. Stairs and step construction. Tinning windows. Fitting and hanging doors. Finishing floors. Closets, shelves and built-ins. Painting and varnishing. Scaffolding. Garage and bare doors. Scaffolds, ladders and hoists. Short cuts in laying out work. Work benches and shop equipment. Portable equipment. Measuring and layout tools. Hammer, chisel, planes and chisels. Band and power saws. Miscellaneous tools. Index.

Note: This useful collection of construction hints repeats hints first appeared in 1914 under the title *Short Cuts for the Builder*. The edition preceding the present one appeared in 1940 and had the title *Practical Job pointers*. The latest change in title indicates somewhat more emphasis on hints of interest to the amateur builder and home mechanic. However there is still plenty of material for carpenters and other men who make their living in the building trades. As in the preceding edition the material has been selected from the "Technical guide" department of the *American-Builder*. Many of the hints in the present edition appear in the book for the first time, and some of those which appeared in the preceding editions have been dropped because they have become obsolete. There are approximately five illustrations per page and detailed index.

TOWNSEND GILBERT AND J RALPH DAL KELL

How to plan a house. Second edition. Chicago American Technical Society 1952 587 p. illus. 23 cm. \$6 95. 1927

Contents: Types of house architecture. Building lots. Construction. Styling house. Foundations and footings. Types of materials for walls, partitions, floor, roof. Designing a house and other small support members. Strength of floors, walls, roofs. Standard sizes of materials and spacing parts. Working drawings required for house. Mechanical systems. Planning floor plans. Designing elevations. Mechanical considerations. Details. How to keep plans within financial budget. Specifications. Illustrative examples. Index.

Note. This book is built best for practical students and guide for those prospective homeowners who like to avoid not all the details of planning their own houses. Most aspects of the subject are at least touched upon, but the book is valuable chiefly for its wide range of information on structural details and the technical aspects of planning and construction. The first edition appeared in 1943. A fair amount of material has been added in this edition especially on the currently popular neighborhood house and on recently developed materials. Three chapters have been dropped. The number of illustrations has been increased.

WALKER, FRANK RABOLD

The building estimator's reference book a practical and thoroughly reliable reference book for contractors and estimators engaged in estimating the cost of and constructing all classes of modern buildings. Eleventh edition—Illustrated. Chicago Frank R. Walker Company 1950 1780 p. illus 17 cm. \$12.00. 1928

the types and varieties of laminating materials are given. Methods of application are also described, and in most instances the descriptions are detailed enough to serve as the needs of readers. It is intended to supply the laminiting themselves. However methods which require specialized equipment are described in general terms only. An example is the blowing of loose laminiting into the walls of existing buildings. The book contains little if any information that has not been published before, but it is handy compilation for its intended readers.

DUNLAP MATTHEW ELBRIDGE

Condensation control in dwelling construction, by Forest Products Laboratory Forest Service, U S Department of Agriculture in collaboration with the Division of Standardized Building Codes and Materials, Office of the Administrator Housing and Home Finance Agency Washington, D C. Government Printing Office, 1949 73 p illus. 23 cm. Paper \$0.25 1934

Contents: Introduction. Factors in the condensation problem: Vapor barriers. Sheathing paper or sheathing. Ventilation. Thermal insulation. Good practice recommendations: Condensation control means. Sites of ventilation. Control spaces. Walls. Ceilings or roofs. Condensation control details. Appendixes: Methods for computing recommended amounts of insulation. Literature cited. Glossary of condensation and building terms.

Notes: How moisture condensation in the frames of dwelling houses may be controlled by means of vapor barriers and proper ventilation is the subject of this pamphlet. The methods described are based upon studies and observations made over a period of years on buildings involved in moisture problems. Pages 13-44 are accepted by drawings and specifications drawn by J. C. Kilduff covering various building details involved in condensation control. The publication is of interest to architects, builders, and home owners.

ILLUMINATING ENGINEERING SOCIETY

IES lighting handbook, the standard lighting guide. Second edition. New York Illuminating Engineering Society 1952 977 p illus. 23 cm. \$8.00 1935

Contents: The physics of light. Light and vision. Standards, nomenclature, abbreviations, and symbols. The measurement of light. Color. Light control. Daylighting. Light sources. Lighting calculations. Interior lighting. Exterior lighting. Sports lighting. Street and highway illumination. Aviation lighting. Transportation lighting. Maritime lamp applications. Photographic, reproduction, projection, television and radio screen lighting. Miscellaneous applications of lighted energy. Appendix: Conversion factors for lighting units. Conversion equations for angular measure, temperature, power and pressure. Greek alphabet. Glass factors. Procedures for obtaining L.C.I. specifications from spectrophotometric curves. Control Manual systems for each I.E.C.C.-N.B.S. color-matching block. Tabular values of the spectrum. Brightness of various light sources. Procedures for computing coefficients of utilization. Constants for use in usual method of computing luminance (ft from candlepower data. Methods for determining angle of incidence. Moments for obtaining beam losses from average solid candlepower. Constants for converting beam candlepower of projector-type luminaires into footcandle. Coefficient of utilization comparison sheet. Multiplying factors for direct components of utilization coefficients. Calculations with loss and surface areas. Complete exposure analysis. Equations of cosine curves. Areas of plane figures. Properties of the circle. Trigonometric functions. Specular and diffuse reflection factors of common papers and ink. Manufacturers' data. Index.

Notes: (14477) A manual which provides essential information on light and lighting in simple terms and condensed style for the practical use of engineers, architects, contractors, and manufacturers. This edition is the result of detailed review and revision of the first edition published in 1947. The work of revision was carried on largely by technical committees of the I.E.S. Over three-fourths of the material is new or revised. Two new sections are included, those on street and highway illumination and aviation lighting. A feature in the 177 page section of manufacturer's reference data containing data from 35 manufacturers on products supplied by them, the contents of which comply with the specifications and standards established by the Illuminating Engineering Society for such information.

KNUDSEN, VERN OLIVER, AND CYRIL M HARRIS

Acoustical designing in architecture. New York. John Wiley & Sons, Inc., 1950 457 p. illus. 22 cm. \$7.50. 1936

Contents: Properties of sound. How we hear. Speech and music. Reflection and diffusion of sound in rooms. Open-air theaters. Sound-absorptive materials. Special sound-absorptive constructions. Principles of room acoustics. Acoustical design of rooms. Noise control. Reduction of air-borne noise. Reduction of solid-borne noise. Control of noise in ventilating systems. Sound reproduction systems. Auditoriums. School buildings. Commercial and public buildings. Homes, apartments, and hotels. Church buildings. Radiobroadcasting, television, and sound-recording studios. Appendix: Coefficients of sound absorption. Tables of sound insulation data. Conversion factors and physical constants. Index.

Notes: A practical guide intended for architects, students of architecture, and others who wish a non-mathematical but comprehensive outline on the subject. The authors cover the technological principles of architectural acoustics and show how to apply these principles in practice. They emphasize that acoustical designing begins with the preliminary sketches on the drawing board and continues throughout all stages of planning and construction. Design data are presented in such manner that the book can serve as a convenient reference in the solution of most problems encountered in architectural acoustics.

KRAEHNBUHL, JOHN OTTO

Electric illumination. Second edition. New York John Wiley & Sons Inc. 1951 446 p. illus. 24 cm. \$8.00. 1937

Contents: Introduction. Objective specification of illumination. Subjective specification of illumination. Color and shadow. Illumination from point, line, and surface sources. Electrical incandescent and gas-discharge light sources. Light control. General illumination design. General methods. Luminous architectural elements (luminous panels). Photography (luminous method). Specialty lighting. Maintenance and economy—automatic control. Waxes, Appendix. Index.

Notes: (4412) A college textbook that is useful also to architects and other non-specialists whose work requires the understanding of the principles of illumination and the specifications of lighting systems. Commercial, industrial, and electrical, rather than residential, lighting, are dealt with. In addition to summaries of the general principles of the subject, there is wide variety of tabulated engineering data used in design and specification work. There are numerous lists of references to other literature. The book has been re-arranged, the type reset, and there is substantial content of new material in this edition.

MARCH C A.

Building operation and maintenance. New York McGraw Hill Book Company Inc. 1950 384 p. illus. 24 cm. \$7.00 1938

Contents: Building management. Renting and collecting. Accounting. Purchasing and stock room control. Building organization. Making space layouts. Cleaning. Cleaning materials. Defects and accidents. Equipment and supplies. Elevator operation. Floors. Furniture and materials. Housekeeping. Fire prevention and protection. Safety precautions. Decorating. Electrical system. Elevator maintenance. Heating. Ventilation and air conditioning. Plumbing. Roads. Structural maintenance. Landscaping. Index.

Notes: A general introductory volume in which the many aspects of operating and maintaining commercial buildings are covered in fair but not elaborate detail. The point of view is that of building superintendents or other persons in charge of operation and maintenance. There is considerably more emphasis on maintenance than on the accounting and legal aspects. The treatment of specific topics such as plumbing is much briefer than can be found in books on these individual topics, but enough information is included for the education and general information of the intended readers. There is no bibliography.

MATTHIAS ARTHUR JOHN, JR.

How to design and install plumbing: materials and methods of standard practice. Revised by Eales Smith, Jr. Third edition. Chicago American Technical Society 1952 444 p. illus. 22 cm. \$3.95 1939

Contents (abridged): Municipal sewage disposal. Private sewage disposal. Materials used for sewer pipe and fittings. Joints in clay and iron sewer-pipe and vent. The house sewer. The house drain. House drain appliances. Storm drains. Soil pipe. Waste pipe. Traps used on plumbing systems. Ventilation. Hot, waste and vent pipe principles. Inspection and test. Water supply. Materials used for water distribution. The house water supply. Pumps and lifts. Cold water distribution systems in tall buildings. Domestic hot-water supply. Hot-water distribution systems. Cross-connections. Fire line installations. Plumbing fixtures. Questions pertaining to plumbing. Index.

Notes: (4413) A practical book that has been widely used as a vocational school text and general source of information about plumbing practices since the appearance of the first edition in 1940. It covers both the plumbing of residences and of industrial buildings. A considerable range of material has been added in this edition. However it is obvious that the revision as handled so that as many as possible of the plates that were used to print the second edition could be used again. The result has been the retention of some outdated material.

MILLER, SAMUEL C.

Neon signs and cold-cathode lighting. Second edition. New York McGraw Hill Book Company Inc. 1952 395 p. illus. 24 cm. \$6.00 1940

Contents (abridged): Part I. Fundamentals of neon-tube manufacture. The neon-tube tube. Materials used in constructing tubes. Electrical equipment. The types of signs. Part II. Shop practice: Distributing the sign. Glass bending. Pumping systems. Bore-bending. Filming, testing, aging. Finishing and line systems. Radio and television interference. Installation and maintenance. Part III. Fluorescent lighting. Fundamentals and maintenance. Part IV. Appendixes. (1) Generalities. Laboratories requirements for electric signs. Signs and outdoor display structures. Index.

Notes: As established book for practical sign-makers. The scientific principles of various neon-tube tubes are explained in a few pages, then the rest of the space is devoted to the materials and operations in sign-making. The writing is simple and clear. The book is most able for use as self-instruction and as a shop reference book. The first edition was published in 1931. There are many changes in this edition, and two new chapters on fluorescent lighting.

PAINTING AND DECORATING CONTRACTORS OF AMERICA

Painting and decorating craftsman's manual and textbook. New York Theo Audel & Co. 1949 430 p. illus. (part color) 17 cm. \$2.00 1941

Contents (abridged): Book one. Materials: Composition and properties of basic materials. Synthetic resins. Modern paint formulations. Other basic coatings and finishes. Book two. Brushes, equipment, mixing, health. Brushes and brushes. Spray painting. Ladders, scaffolds and rigging. Mechanical appliances. Health. Book three. Painting specifications—practical procedure: Preparation of the surface. Free exterior work. New interior work. Refinishing previously coated surfaces. Practical painting procedure: Marking and grinding. Wood finishing. Book four. Paint colors and their properties. Factors that cause paint failure. Season for painting. Book five. Color: Color harmony. Color mixing and matching. Color and light. Psychology of color. Styling with painted color. Book six. Wallpaper. Book seven. Estimating. Book eight. Dictionary of trade terms. Book nine. Historical supplement.

Notes: An official textbook of the sponsoring organization. It is designed for the instruction of apprentices who are learning the trade by combining classroom study with practical work. The discussions of some topics are rather brief, probably because they are intended to be supplemented by the personal instruction but as whole the book offers a wide range of practical information on materials and techniques. It should be useful not only to apprentices but to anyone who desires practical information about painting. It is pertinent on painting and decorating working methods (1932) but it has been so thoroughly revised and expanded that it is essentially new work.

RAY, JESSE EDGAR

The art of bricklaying. Peoria, Illinois Charles A. Bennett Company 1950 240 p. illus. 22 cm. \$4.00 1942

Contents: The story of brick. Composition of brick. Lime, cement, mortar. Tools. Spreading mortar. Courses: raising four brick corner. Raising an eight-brick American bond corner. Raising an eight-brick Flemish bond corner. Laying of corners in the various bonds. Important suggestions for the apprentice. Wall-spread mortar. Bonds and patterns in brickwork. Chimney construction. Special aspects of brickwork. Arch layout and construction. Brick details and construction. Advanced problems in ornamental brickwork. Photographs of excellent brickwork. Laying cement block. Scaffolding. Chimney of trade terms. Index.

Notes: An introductory book written by one with many years' experience in bricklaying. It is designed mainly for students in vocational classes and for apprentices, but the amateur can pick up a few points in it. The discussion is compact and is couched in the language of the bricklayer's craft. The short chapter on concrete blocks is designed for student bricklayers, and is not full enough to suit the needs of the beginning mason—he does not learn brick-laying first.

ROGERS TYLER STEWART

Design of insulated buildings for various climates. By Tyler Stewart Rogers assisted by Paul A. Siple Elmer Queer Howard T. Fisher and John Hancock Callender New York F W Dodge Corporation 1951 119 p. 31 cm. \$5.50. 1943

Contents: Part I. Principles Climate. Heat control. Vapor control. Ventilation. Part 2. Practice: Design data. Loads on ceilings. Walls. Floors. Design calculations.

Notes: An authoritative and up-to-date discussion of heat insulation for buildings. The author has made liberal use of charts, tables, flow diagrams, and photographs. His text is lively and concise, but it contains the essential facts. The text is directed for architects and builders rather than for engineers, and should be very useful to its intended audience. Much of it is also within the grasp of laymen who wish to know the facts about home insulation.

SHARP HOWARD M

Introduction to lighting. New York Prentice-Hall Inc., 1951 334 p. illus. 22 cm. \$6.65. 1944

Contents: Nomenclature. Basic concepts. Electric lamps. Ballasts, transformers, and starters. Control of light. Luminaires. Measurement of light and lighting. Colorimetry—color-matching curves. Colorimetric measurements. Principles of lighting design. Visual effects and schools. Factors in design. Lighting design—specialized techniques. Lighting cost analysis. Index.

Notes: A practical book reliable for engineering college students and practicing engineers. The book is not only a working handbook of lighting principles and design. A good deal of the text is devoted to the mathematics that might be needed by practicing engineers or architects in designing lighting systems is included. The chapters are supplemented by numerous tables of engineering data. The author is a member of the faculty of the University of Illinois.

SIEGEL, HERMAN HUGO

The steel square. A practical treatment of the steel square and how it is used. Wilmette Ill. Frederick J Drake & Company 1951 184 p. illus. 23 cm. \$2.50 1945

Contents (abridged): Roof framing table. Squares and circles. Polygonal. Simple roof framing cuts. Finishing hips and valleys. Irregular hips and valleys. Pitch roof. Irregular pitch roof framing. Racking hips and valleys. Various roof framing problems. Mayhew's books. Determining use of steps. Service stairs. Rough houses. Head raking. Working and center steps. Concrete steps. Stair and other problems. Stair and square problems. Squares. Index.

Notes: The steel square is a versatile instrument and few carpenters fully master it. This book, for all craftsmen who wish to extend their knowledge of the square, describes several hundred techniques in roof framing, stair layout, etc. For the most part the descriptions are explicit and detailed. There are 444 figures, each one of which is tied in with the textual discussion.

WILKES GORDON BALL

Heat insulation New York John Wiley & Sons, Inc., 1950 224 p. illus. 21 cm. \$5.00. 1946

Contents: Purpose of heat insulation. Fundamental principles. Methods of determining heat transfer coefficients. Factors affecting the coefficient of thermal conductivity. Types of insulating materials. Reflective insulation. Specific heat of insulating materials. Moisture in insulation. Economics of insulation. Appendix: Coefficients of thermal conductivity. Specific heat and thermal diffusivity. Emulsivity and reflectivity of various substances. Coefficients of heat transmission for building walls. Calculated U values. Water-vapor permeability of various materials. Bibliography. List of Agencies. Index.

Note: A compact summary of useful information on various aspects of heat insulation. The information included has application not only to the insulation of dwelling houses but to the insulation of refrigeration storage rooms and other structures where the insulation demands are more severe. The book is particularly valuable for the data it provides on such topics as reflective insulation, the effects of moisture, and the control of water vapor.

ROAD AND RAILROAD BUILDING

AMERICAN ASSOCIATION OF STATE HIGHWAY OFFICIALS

Standard specifications for highway materials and methods of sampling and testing. Sixth edition. Washington, D. C. Published by the Association, 1950. 2 vol. illus. 24 cm. \$6.00 1947

Contents (abridged): Volume 1. Specifications: Hydraulic cement. Bituminous materials. Sands. Aggregates. Bricks. Expressive joint films and asphalt plank. Culvert and sewer pipe. Bridge piers. Reinforcing steel and wire rope. Metallic materials for bridges. Miscellaneous. Volume 2. Methods of sampling and testing: Hydraulic cement. Bituminous materials. Sands. Aggregates. Concrete. Bricks. Joint filler pipe, and asphalt plank. Metallic materials. Miscellaneous. Index.

Note: (16737) A standard compendium revised periodically. The previous edition appeared in 1947. Some of the specifications included are identical with those of the American Society for Testing Materials.

AMERICAN SOCIETY FOR TESTING MATERIALS

Triaxial testing of soils and bituminous mixtures. A compilation of papers presented at the first Pacific Area national meeting, San Francisco Calif., October 10 1949 and fifty third annual meeting, Atlantic City N. J., June 28 1950 of the American Society for Testing Materials. Philadelphia: American Society for Testing Materials, 1951. 303 p. illus. 23 cm. (American Society for Testing Materials. Special technical publication no. 106) Paper \$3.50 1948

Contents: Introduction, by W. G. Bells. The history and theory of triaxial testing, and the preparation of realistic test specimens. Report of the Triaxial Institute, by V. A. Kaderby. Some concepts concerning triaxial compression testing of asphaltic paving materials and aggregate materials, by F. M. Hovens and H. E. Danks. Application of the triaxial test to bituminous mixtures. California Research Corporation method, by V. R. Smith. Application of triaxial testing to the design of bituminous pavements, by E. W. McLeod. Triaxial design correlated with flexible pavement performance in Kansas, by H. E. Wicker. Triaxial testing applied to soils, flexible base, and foundations, by R. J. Eisek. A triaxial apparatus for testing large soil specimens, by R. E. Hall. Shear testing at the Waterways Experiment Station, by S. J. Johnson. A triaxial shear investigation on partially saturated soil, by D. W. Taylor. Shear characteristics of consolidated earth materials, by A. A. Wagner. Application of triaxial compression test results to highway soil problems, by R. S. Bachus and C. L. Sawyer. The importance of material controlling conditions upon triaxial compression test results, by D. M. Beneshoff. Interpretation of triaxial compression tests on granular materials, by S. H. Reed. General discussion.

Note: The method of testing which forms the central theme of this book is defined in Kaderby's paper as follows: "The word 'triaxial' is applied to tests of mechanical test under which load is applied equally in cylindrical specimens, while supporting pressure

is maintained against its sides by water, air or other means. The actual measured properties of the material tested triaxially are derived from the relation between the testing load and the supporting pressure. Taken together the papers present the current status of this method of testing as applied to road materials in the United States of America.

BRUCE, ARTHUR GARFIELD, AND JOHN CLARKESON

Highway design and construction. Third edition. Scranton Pa. International Text book Company 1950. 734 p. illus. 23 cm. (International textbooks in civil engineering—Benjamin A. Whisler consulting editor) \$7.50 1949

Contents (abridged): Highway administration. Highway location. Design of roads. Design of intersections. Low-cost roads. Bituminous surface treatments. Bituminous-emulsion pavements. Portland-cement concrete pavements. Brick and block pavements. General highway and street maintenance. Estimates, contracts, and specifications. Control and testing of construction materials. Transportation surveys. Airport design. Appendixes: Bureau of Public Roads soil groups. Highway Research Board soil classifications. Classification of soils for airport construction—Civil Aeronautics Administration. Index.

Note: (14911) A standard engineering college textbook which has been thoroughly revised and modernized in this edition—the first on which such changes as co-revision. It is introductory but comprehensive enough to be of reference value to the student. The presentation is only semi-technical, hence the greater part of the book can be readily understood by lay readers seeking information on highway engineering. Each chapter ends with a list of pertinent advanced literature. It should be noted that miscellaneous questions such as periodic filling of dirt roads are covered, as are strictly engineering questions.

CRUM, ROY WINCHESTER, AND OTHERS, editors

Symposium investigations of the design and control of asphalt paving mixtures and their role in the structural design of flexible pavements by Corps of Engineers, Department of the Army. Presented at the twenty eighth annual meeting 1948 of the Highway Research Board. Division of Engineering and Industrial Research, National Research Council. Editorial staff: R. W. Crum, Fred Burggraf W. N. Carey Jr. Washington, D. C. Highway Research Board, 1949. 115 p. illus. 25 cm. (Highway Research Board. Research report no. 7 B) Paper \$1.80 1950

Contents: Introduction, by G. McFadden and W. C. Richards. Selection of test equipment, by J. M. Goffish. Laboratory study of asphalt paving mixtures, by W. E. Boyd. Asphalt stability test section, by C. E. Foster. Correlations of laboratory and field data, by W. G. Shackley. Detailed test procedures for design and field control of asphalt paving mixtures, by J. M. Goffish. The practical application of the design method: asphaltic pavements in pavement construction, by W. E. Boyd. Design of asphalt mixes related to other features of flexible pavement design, by W. J. Turnell. List of references. Glossary of terms. Discussion by V. R. Smith. Discussion by J. T. Puck. Discussion by H. M. Rat. Discussion by R. C. Harner. Discussion by W. E. Campen.

Note: The papers here published present the results of an extensive study of asphalt paving mixtures by the Corps of Engineers, U. S. Army and consultants thereof by highway engineers and other technicians. Most of the experimental work, including laboratory study field investigations, traffic tests, and the establishment of pavement criteria, was carried on by the Corps of Engineers Flexible Pavement Laboratory located at the U. S. Waterways Experiment Station, Vicksburg, Mississippi. While the reported projects were directed toward the design of asphalt pavements, the results obtained are also applicable to the design of road and street pavements, particularly those subjected to considerable traffic of heavy vehicles.

1949 184 p. illus. 23 cm. (American Society of Civil Engineers. Manuals of engineering practice. No. 28) \$3.00 1956

Contents: Historical summary. Runoff. Precipitation. Infiltration. Runoff. Evaporation and transpiration. Ground water storage. Hydrology.

Note: A manual of technical information and data on the behavior of water as it occurs in the atmosphere, on the surface, and underground. It was published as an aid to engineers concerned with the regulation, control, and utilization of water. The five chapters were prepared by five subcommittees of the Hydrology Committee, each covering a phase of the "hydrologic cycle." The 12-page bibliography is arranged in correspond to the chapters. The handbook should be of especial value to engineers planning flood control and water supply projects and developing land drainage and storm sewers. It is useful also as a source of information on the character and scope of hydrology for engineers outside this field.

JOHNSTONE, DON, AND WILLIAM P. CROSS
Elements of applied hydrology. New York
The Ronald Press Company 1949 376 p. II
illus. 24 cm. \$5.00 1957

Contents: Introduction. Collecting and presenting precipitation data. Collecting and presenting runoff data. Elementary relationships between precipitation and runoff. The role of the land. Analysis and synthesis of the hydrograph by unitgraph methods. Flood routing. Infiltration theory and the analysis of the hydrograph. The hydrograph as a function of drainage basin characteristics. Applications of statistical analysis to hydrology. Problems, questions, and special assignments. Subject index. Index of names.

Note: A well-planned textbook designed for students of civil or other branches of engineering who do not plan to specialize in hydrology but who recognize the need of some knowledge of the subject. It provides a good general view of the field with emphasis on its applications and basic methods. A good part of the book is devoted to methods of recording, analyzing, and synthesizing data, and to the application of statistical methods. The hydrograph is discussed as a means for predicting time distributions of flow during flood periods.

LINSLEY RAY K. JR., editor
Annotated bibliography on hydrology
1941-1950 (United States and Canada) Prepared by the American Geophysical Union, National Research Council of the National Academy of Sciences, in cooperation with the Subcommittee on Hydrology Federal Inter-Agency River Basin Committee. Washington, D. C. Superintendent of Documents, 1952 408 p. 25 cm. (United States Federal Inter-Agency River Basin Committee. Subcommittee on Hydrology Bulletin no 5) Paper \$1.75 1958

Note: A complete guide to the hydrologic literature published in the United States and Canada within the years 1941-1950. It is a continuation of the annual bibliography on hydrology issued by the American Geophysical Union from 1936 to 1940. The arrangement is by author; this publication data, and brief annotations are given for each entry.

LINSLEY RAY K. JR. AND OTHERS
Applied hydrology by Ray K. Linsley, Jr., Max A. Kohler and Joseph L. H. Paulhus. New York McGraw-Hill Book Company Inc., 1949 689 p. illus. 24 cm. (Civil engineering series Frederick T. Mavis consulting editor) \$9.00 1959

Contents: Introduction. Climate. Temperature in the atmosphere. Atmospheric humidity. Winds. Precipitation. Snow, ice, and frost. Evaporation and transpiration. Streamflow. The ocean. Surface rough-

ness and detention and overland flow. Soil physics. Sedimentation. Oceanography. Hydrograph analysis. Runoff relations. Runoff distribution. Waves. Streamflow routing. Design criteria. Design and operation of water-control works. River forecasting. Appendixes: Graphical correlations. Sources of hydrologic and meteorological data. Physical constants, conversion tables, and equivalents. Index.

Note: A rather inclusive work which is designed for use both as text in engineering courses and as a reference book for engineers concerned with the design of highways, airports, storm-sewers, water supply projects, etc. Basic theory, methods of collecting data, and equipment used are discussed, but emphasis is placed on the interpretation of data and practical applications. The treatment requires knowledge of simple statistical methods and of elementary calculus. The authors are associated with the Division of Climatological and Hydrologic Services of the U. S. Weather Bureau.

MEAD DANIEL WEBSTER

Hydrology the fundamental basis of hydraulic engineering. Second edition, revised and enlarged, by Mead and Hunt, Inc., consulting engineers. Chapter on drought by Henry J. Hunt. New York McGraw-Hill Book Company Inc., 1950 728 p. illus. 23 cm. \$8.00. 1960

Contents: Introduction. Water—its occurrence, utilization and control. Some fundamental theories. Winds and storms. Hydrography. Atmospheric moisture and evaporation. Precipitation. Runoff measurements and records. Annual rainfall in the United States and its variation. Seasonal rainfall in the United States and its variation. Creek statistics. Droughts. Rainfall and altitude. Geological agencies and their work. Geology. Ground waters. Stream flow or runoff. Variations in runoff or stream discharge. Estimating runoff. Floods and flood flows. The application of hydrology. Index.

Note: The general scope and arrangement of this text for engineering students differ little from the first edition published in 1919. Its purpose, now as then, is to provide a comprehensive review of the facts and principles regarding the properties and phenomena of water which must be considered in building dams, irrigation projects, public water works, and the like. Most of the illustrations and charts of the first edition have been retained, but the tabulated data have been brought up to date. A chapter on drought has been added and a discussion of such topics as the recent analysis of meteorological phenomena, evaporation theory, artificial rainfall, and ground water are introduced. Some new references have been added to the chapter bibliography.

MORGAN ARTHUR ERNEST

The Miami Conservancy District. New York McGraw-Hill Book Company Inc., 1951 504 p. illus. 24 cm. \$7.00 1961

Contents: The Miami valley. The Miami river flood of March, 1913. Relief. Emergency government. Flood control. The Ohio conservancy act. Organization of the Miami Conservancy District. The official plan. The engineering staff. The approved and recommended. Properties for construction. By-products and incidents. Methods and policies of construction. Industrial relations. The construction period. As the years pass. The influence of the Miami Conservancy District. Bibliography. Index of names. Index.

Note: The complete history of major engineering undertaking is told in this book written by one of its chief engineers. The Miami Conservancy District, organized following the disastrous 1913 flood, has since that date protected the citizens of Dayton, Ohio, and vicinity from topkales of flood conditions in the Miami river valley. The engineering, social, and legal aspects of this great flood-control project are all treated in full detail. A feature of the table of contents is that the author has there indicated the sections of the book of most interest to the general reader. The work is well illustrated with photographs, maps, plans, and tabulations. A comprehensive bibliography and adequate indices conclude the book.

SUTTON JOHN G

Design and operation of drainage pumping plants. Washington D. C. Government Printing Office, 1950 81 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 1008) Paper \$0.25 1962

Contents (abridged): Conditions for pumping. Relation of pumping plant to general plan of drainage. Location of pumping plants. Foundation conditions—soil borings. Storage at section bay. Determination of static lift. Determination of runoff to be pumped. Formula for maximum plant capacity. Plant capacity for Louisiana and Texas. Plant capacity for Florida. Minimum runoff pumped. Selection of pump: Priming equipment. Selection of power equipment. Design of building and accessory structures. Farm pumping plants. Tests of pumping plants. Operation of the pumping plant. Literature cited. Appendix.

Note: Superseding Technical Bulletin no. 390 this bulletin provides recommendations for the design and operation of drainage pumping plants for all parts of the United States. Attention is given both to plants of larger size, as for drainage and levee districts, and of smaller size, useful for installation on individual farms either to drain low areas or to supplement irrigation systems. Included in the illustrations are tables and figures presenting technical data, photographs, drawings, and plans of pumping systems.

WISLER, CHESTER OWEN, AND E. F. BRATER
Hydrology New York John Wiley & Sons,
Inc. 1949 419 p. illus. (part col'd) 22 cm.
\$6.50

1963

Contents: Introduction. The hydrograph. The drainage basin. Evaporation. Water losses. Infiltration. Ground water. Flood. Flood. Stream flow records. Index.

Note: Knowledge of the basic principles and methods for obtaining data regarding fluctuation in stream flow flood conditions, rainfall and runoff, and of the processes governing the depletion and replenishment of water resources have become increasingly important to the fields of civil engineering, forestry and agriculture. This volume, planned for use as college text and based on courses given at the University of Illinois, provides comprehensive and up-to-date discussion of these principles and methods. The treatment covers knowledge of simple statistical methods and of the fundamentals of calculus. No formal bibliography is included, but pertinent literature is cited in footnotes throughout.

SANITARY ENGINEERING

AMERICAN WATER WORKS ASSOCIATION

Water quality and treatment a manual prepared by the American Water Works Association. Second edition. New York: American Water Works Association, Inc., 1951 451 p. illus. 24 cm. \$5.00. 1964

Contents: Characteristics of available water sources. Organisms in water. Standards of quality. Pollution and self-purification of surface water supplies. Control of impounding reservoirs. Aeration of water. Coagulation and coagulation. Mixing and sedimentation basins. Chlorination and other disinfection practices. Tests and other control. Filtration. Scale and corrosion control. Boiling. Consumption and removal of iron and manganese. Treatment of water for steam generation. Chemical treatment of water for physiological benefits. Treatment plant control. Appendixes: The water supply history. American Water Works Association code of practice. Chemicals used in water treatment. Conversion equivalents for water. Index.

Note: (1964) An authoritative treatment and reference book sponsored by the chief society in the water supply field in North America. Contemporary standards and practices are completely described, and the descriptions are supplemented by selected recent work in the literature. The work is intended for water supply engineers and others who are professionally concerned with water purification and standards of quality for potable water. Important revisions and additions have been made in the present edition.

BABBITT, HAROLD EATON

Engineering in public health. New York: McGraw Hill Book Company, Inc., 1952 582 p. illus. 23 cm. (McGraw Hill civil engineering series, Frederic T. Mavis consulting editor) \$8.00. 1965

Contents: Engineering in public health. Values and costs in public health. Public health administration. Diseases and sanitary epidemiology of communicable diseases. Bacteriology. Diseases transmitted by insects, the lower animals, and birds. Diarrhoea, typhoid, pneumonia, and meningitis. Food sanitation. Milk. Water and the public health. Housing. Plumbing. Ventilation and heating. Light, sound, and odor. Sanitation of hospitals. Sanitation of city air. The city street. The collection and disposal of municipal refuse. Industrial hygiene. Refraining pools and bathing places. Sewage and industrial wastes treatment. Pollution of surface waters. Rural and camp sanitation. Sanitary engineering in domestic index.

Note: This work is intended for the professional engineer practicing in fields related to public health. Although written for persons with basic education in civil engineering and with knowledge of water works and sewerage principles, little in the text would not be comprehensible to others with basic training in mathematics and the natural sciences. The book was developed principally from notes, references, and lectures used in graduate classes conducted by the author at the University of Illinois over a period of twenty years. It is complete and detailed synthesis of the subject, emphasizing the breadth of knowledge required by the sanitary or public health engineer. For the sake of brevity, discussions have been omitted of fundamentals in the major branches of professional engineering, such as the procurement of water and the collection of sewage. References are given at the ends of the chapters.

BABBITT, HAROLD EATON AND JAMES J. DOLAND

Water supply engineering. Fourth edition. New York: McGraw Hill Book Company, Inc., 1949 637 p. illus. 24 cm. \$7.50. 1966

Contents: Introduction. Hydraulics. Demand for water. Ground water. Levees, construction, and maintenance of wells. Reservoir and runoff. Dams. Intakes. Aqueducts. Streams in pipe. Impounding reservoirs. Pumping stations. Storage and impounding pumping sta-

tionary. Electrical equipment. Centrifugal pumps. Well pumps. Miscellaneous engines and pumps. Materials for the design of pipes. Valves, gates, hydrants, and meters. Metallic corrosion. Disinfection treatment. Design of distribution systems. Construction and maintenance of distribution systems. Quality of water supply. Interpretation of water analyses. Water administration. Coagulation. Sand filtration. Water softening. Desalination. Miscellaneous methods of water purification. Appendixes. Outline of report on water-works design. Problems. Index.

Note: (1962) An inclusive textbook on water supply engineering for use in civil engineering courses in engineering schools and colleges. Each topic is presented in detail with suitable examples and illustrations. Formulas are given where pertinent. 777 problems for solution are grouped by chapters in sections of 25 pages in the appendix. In this fourth edition the book has been completely revised and in part rewritten. Emphasis is placed on structural procedures and practical applications rather than theoretical design are now emphasized; hence some of the theoretical material which appeared in the preceding edition has been dropped.

BESSELIEVE, EDWARD BULKLEY

Industrial waste treatment. New York: McGraw Hill Book Company, Inc., 1952 391 p. illus. 23 cm. \$7.50. 1967

Contents: What constitutes waste problem? Who starts waste-treatment problem? The first steps to take in the solution. The place of the engineer or specialist. Cooperation between enforcing agencies, industrialists, and localities. Factors in the solution of waste problem. The interests connected in industrial-waste problems. Design for industrial waste treatment. Sampling and analysis of wastes. Combining wastes from several plants to reduce costs. The preliminary effect of various wastes. Methods of waste treatment. Equipment for waste treatment and its selection. Coagulants and chemicals. Handling industrial wastes in municipal systems and changes therein. Factors in the development of low-cost plants. Reuse of wastes and recovery of values. Appendixes. Author index. Subject index.

Note: Liquid wastes produced in industrial processes are discussed in this book primarily from the viewpoint of sanitarians and engineers who are concerned with the disposal of wastes as an act to reduce the low pollution stream, and adversely affect public relations. There is of course some discussion of the public health aspects but this is subordinate. The general picture of the problem and the general methods of solving them are given most of the space, but the treatment of specific types of waste is described in the chapters entitled "Methods of waste treatment" and "Reuse of waste and recovery of values." Bibliographies are included. Considerable attention is given to the reclamation of water from liquid wastes for reuse in manufacturing processes and in cooling. The author is Chief Sanitary Engineer on the staff of the Durr Company.

EHLERS, VICTOR MARCUS AND ERNEST W. STEEL

Municipal and rural sanitation. Fourth edition. New York: McGraw Hill Book Company, Inc., 1950 548 p. illus. 23 cm. \$6.50. 1968

Contents: (abridged) Communicable diseases. Excreta disposal without water carriage. Excreta disposal with water carriage. Treatment of water. Protection of water supplies. Refuse disposal. Municipal characteristics. Fly control. Rodent control. Milk sanitation. Food sanitation. Plumbing. Ventilation and air conditioning. Light. Housing. School sanitation. Tubercular hygiene. Diarrhoea and intestinal. Vital statistics. Public-health organizations. Appendixes: How to make good concrete. Maximum allowable concentrations for water for industrial purposes. Index.

Note: (1964) A successful college textbook. The first edition was published in 1927 and each revised edition has included new materials and additional material. A broad view is taken of the scope of sanitation; hence the inclusion of chapters on ventilation and lighting is appropriate. Besides its intended use, the book is suitable for reference use by practicing engineers, public health officials, and

in literature. Many of the discussions have direct application to sanitation problems in rural areas and small villages. In preparing this edition the authors made many changes. New matter has been introduced at numerous places, and the total length of the work has been substantially increased.

HARDENBERGH, WILLIAM ANDREW

Sewerage and sewage treatment. Third edition. Scranton Pa. International Textbook Company, 1950 467 p. illus. 23 cm. (International textbooks in civil engineering, Benjamin A. Whistler, consulting editor) \$6 50

1969

Contents: (abridged) Hydraulics of sewers. Pipe sewers. Sewers built in place. Sewer appurtenances. Planning of sewerage systems. Design of sanitary sewers. Design of storm and combined sewers. Pumping of sewage. Construction of sewers. Records and estimates. Fundamentals of sewage treatment. Dilution and irrigation. Cost removal and screening. Sedimentation. Chemical treatment of sewage. Activated sludge process. Sludge digestion and disposal. Chlorination of sewage. Industrial wastes. Industrial waste treatment. Selecting the method of treatment and designing the plant. Operation of sewage-treatment plants. Typical design of sewage treatment plant. Index.

Note: (1977) A standard text written by the editor of *Public Works Magazine*. The treatment is compact, and with attention is given to such practical matters as basic engineering data and construction details of sewer systems. The book has special application to the design of small plants. In this edition there are revised discussions of industrial wastes, trickling filters, and flow other topics. Chapters on recently published literature have been added to some chapter bibliographies.

HARDENBERGH, WILLIAM ANDREW

Water supply and purification. Third edition. Scranton Pa. International Textbook Company 1952 516 p. illus. 21 cm. \$6 50

1970

Contents: General considerations in planning water supply systems. Conception of water. Rainfall. Evaporation, percolation, and absorption. Surface water. Ground water. Storage reservoirs. Distributing reservoirs. Gravity conduits. Pipe conduits. Pipe appurtenances. Laying pipe and maintaining lines. Planning the distribution system. Hydraulics of flow. Design of distribution system. Design of distribution flow system. Pumps and pumping. Factors in water purification. Physical water of water. Chemical analysis of water. Bacteriological examinations of water. Microscopical examinations. Screening. Sedimentation and coagulation. Filtration. Disinfection. Removing dissolved minerals. Control of concentrations. Taste and odor control. Fluoridation of water. Water for industrial uses. Typical design of treatment plant. Appendixes. Index.

Note: (1977) An established textbook for engineering college students. It has a strong practical slant and is therefore used also by beginning engineers and operators of water plants. Operations such as the laying of pipe lines are described specifically and the descriptions usually include detailed procedures for sub-applications such as the testing of new lines for leaks. The preceding edition was published in 1945. In the present edition the chapter on fluoridation of water is new and certain other chapters—for instance those on laying pipe, on maintaining lines, and on filtration—have been extensively rewritten. Recent literature has been added to the selected lists of references which appear at the ends of many of the chapters.

MOULTON, FOREST RAY AND FLORENCE HIZEL

Limnological aspects of water supply and waste disposal. Washington American Asso-

ciation for the Advancement of Science, 1949
87 p. illus. 24 cm. o.p. 1971

Contents: Microbiology of sewage treatment plants and related streams. By J. N. Wilson. Some epidemiological and biological problems in waterborne zoonoses. By R. L. Chang. Biotic responses to stream pollution during artificial stream restoration. By A. F. Barbach and W. S. Churchill. A study of trout poisoning in relation to the aquatic environment. By W. M. Van Meter. Plant life as related to salinized conditions in surface water. By J. R. Lantry. Preliminary studies on the viability and dispersal of surface bacteria in the sea. By R. M. Kricheldorf and others. The eutrophic part in city and industrial water supply problems. By C. E. Tait. The use of oxygen electrodes for a soil sensor and for biological investigations. By J. R. Martin.

Note: A collection of original papers on topics that are of mutual interest to biologists and to sanitary engineers. The papers are limited, of course, to the specific topics named in their titles, but they are illustrative of areas within sanitary engineering where basic biological knowledge and techniques are of value. A majority of the papers are accompanied by literature references.

NORDELL, ESHEL

Water treatment for industrial and other uses. New York Reinhold Publishing Corporation, 1951 526 p. illus. 24 cm. \$12.00.

1972

Contents: Industrial water supplies. Dissolved mineral matter. Dissolved gases. Turbidity, sediment, color, organic matter. Taste, odors and microorganisms. Water requirements. Boiler feed water. Cooling water. Aeration. Desalination. Chemical treatment. Sedimentation, clarification, settling, and flocculation. Iron and manganese removal. Zeolite (cation exchange) and ion exchange processes. Hydrogen cation-exchange processes. Demineralization and distillation. Cold water-cold water softening processes. Hot water-cold water softening processes. Index. Appendixes. Bibliography.

Note: The treatment of natural waters in order to render them more suitable for industrial and domestic uses is subject of wide interest. This is comprehensive work on the subject with 120 tables of reference data, approximately the same number of illustrations, and long bibliographies. It is written on professional level, and it is of interest to chemists, process engineers, and many others. Some work involves the use of water in industry. The author is connected with the Potomac Company.

PIHELPS, EARLE B

Public health engineering a textbook of the principles of environmental sanitation. Volume II The food contact in collaboration with Walter D. Tiedeman New York John Wiley & Sons Inc., 1950. 213 p. illus. 23 cm. \$4.50.

1973

Contents: The relation of food to disease. Food control administration. Milk production. Pasteurization of milk. Auxiliary processes and equipment. Plant layout. Milk plant inspection and control. Shellfish production and control. Public eating and drinking places. The handling and disposal of garbage, refuse, and excretory matter. Radical control. Index.

Note: (1977) The present volume is limited to the food contact phase of public health (the air and water phases were treated in volumes I and II may be read independently. The major field of concern to public health is not covered. Instead, control of this part of the book is devoted to the handling and control of milk and shellfish. Particular attention is given to such matters as the design and packaging of slabs in milk handling plants. The work is of primary interest to professional workers in public health, especially those in charge of the inspection and regulation of places where food is processed and of restaurants.

MECHANICAL ENGINEERING

GENERAL

AMERICAN SOCIETY FOR METALS

Interpretation of tests and correlation with service a series of four educational lectures presented to members of the ASME during the thirty-second National Metal Congress and Exposition Chicago, October 23 to 27 1950 Cleveland The American Society for Metals, 1951 198 p. illus. 24 cm. \$5.00 1974

Contents: Correlation of laboratory tests and service performance, by M. F. Corwood and others. Unfailings of mechanical testing, by M. Corwood. Wear tests and service performance, by J. T. Burwell. Corrosion tests and service performance, by F. L. LeQue. Index.

Note: The papers in this book relate to the very important topic of correlation between laboratory tests and service performance. For example, in the first paper there are reports of detailed investigations of automobile steering knuckles, front suspension and springs, and axle shafts. The knuckles were subjected to professional metallography, but they are also of interest to mechanical engineers concerned with the design of machine parts. Each of the papers is accompanied by list of references.

BURWELL JOHN T. JR. editor

Mechanical wear being the proceedings of a summer conference on this subject held in June, 1948 at the Massachusetts Institute of Technology Cambridge, Mass Cleveland American Society for Metals 1950 287 p. illus. 23 cm. \$6.50 1975

Contents: Dimensional considerations in friction and wear, by C. F. Taylor. Wear in diesel engines, by C. O. A. Ramey. Wear of automotive engines—cylinders and rings, by F. G. Lane. Fuel and lubrication factors in piston ring and cylinder wear, by A. G. Cottazac and E. R. Stachman. Chemical aspects of wear and friction, by R. G. Larson and G. L. Perry. The vapor-lubrication of graphite in relation to carbon brush wear, by R. H. Brown. The wear and damage of metal surfaces with fluid lubrication, no lubrication and boundary lubrication, by F. F. Bowden and D. Taber. Wear in steam turbines, by W. L. Macchi. The need for studies of "real" hydrodynamic lubrication, by R. W. Deyman. The distinctive strength of oil film in plain bearings, by C. M. Allen. Gear wear as related to the strength of the gear set, by H. H. Bick. Surface deterioration of gear teeth, by J. O. Allen. Recent roll tests on conductor bands of materials, by R. Buckingham and G. J. Talbot. Hardness and its influence on wear, by R. Hahn. Wear of metals under smooth contactary conditions, by L. H. McMillan. Friction and wear of some powder metal-bearing systems, by J. Dethick and J. Wolf. Summary of factors in the wear process, by J. T. Burwell, Jr. Bibliography. Index.

Note: The papers in this volume present broad survey of research methods and current knowledge regarding the causes and control of wear of metals. The authors are specialists associated with universities, research laboratories, and industrial organizations, and the material has been drawn from reports of laboratory investigations and studies of machines in actual service, as well as from published literature. The book is generously illustrated, and there is an appendix bibliography. It is of interest to mechanical engineers in general and to lubrication experts and machine designers in particular.

DAYTON RUSSELL WENDT editor

Sleeve bearing materials. A series of educational lectures on sleeve bearing materials presented to members of the A. S. M. during the twenty-eighth National Metal Congress and Exposition Atlantic City Cleveland American Society for Metals, 1949 256 p. illus. 23 cm. \$5.00. 1976

Contents: Part I. The characteristics of bearing materials. Fundamental considerations concerning the behavior of bearings, by R. W. Deyman. Some general comments on bearings, by C. E. Evans. British thoughts and practices: how they differ from American, by W. H. Tait. Discussion of paper by W. H. Tait, by R. D. Hahn. Part II. Specific bearing materials. Ferrous bearing materials, by L. C. Knight and L. W. Hall. Aluminum alloy bearings—metalurgy, design and service characteristics, by R. Y. Nussler. Ferrous metal bearings, by A. J. Lechman. Marine Diesel-100 engine bearings, by J. A. Lippin. Cast bronze bearings, by L. M. Long. Discussion of ferrous metal, by R. J. Schneider. Discussion of wrought (or rolled) bearings and bearing materials, by R. F. Casti and others. Discussion of cast bronze bearings, by J. R. Tabor. Part III. Bearing design and lubrication. Lubrication: Mechanical features of mechanical bearings, by R. G. Cottazac. Lubrication, by R. G. Cottazac and J. Mearns. Brown-backed bearings, by R. J. Tabor. Electroplated bearings, by R. A. Schmidt. Properties and use of surface for bearing, by J. R. Schneider. Part IV. Factors involved in the application of bearings. The selection of bearing materials, by A. F. Underwood. Aircraft engine bearings, by J. F. Pichler and R. W. Shaw. Selection of bearing materials in the electrical industry, by D. F. Wilcox. Ballroom journal bearings, by R. E. Pears, Dallas.

Note: The papers collected in this book are addressed to metallurgists, engineers and other men who have practical interest in bearing and bearing materials. Several of them are supplemented by summaries of the discussion that followed their original presentation. Six of them contain lists of related literature.

KENT WILLIAM

Kent's Mechanical engineers' handbook twelfth edition. Power volume prepared by a staff of specialists J. Kenneth Salisbury editor Design and production volume prepared by a staff of specialists Colin Carmichael, editor New York John Wiley & Sons, Inc., 1950. 2 vol. \$8.50 per volume. 1977

Contents (abridged): Power volume. Air, by J. Kaye and others. Heat and heat exchangers, by C. O. Mackay and others. Steam, water and ice, by J. K. Salisbury and others. Hydrodynamics, hydraulics, and pumps, by G. E. Berron and others. Fluids, by R. J. Wierman and others. Steam-generating units, by R. M. Powell and others. Steam turbines and engines, by A. G. Charles and W. Tribbs. Combustion and cooling equipment, by R. E. Brundage and L. G. De Flon. Combustion air turbines, by W. A. Wilson. Refrigeration and ice-making, by R. H. Kumborg. Heating, ventilation, and air conditioning, by J. W. Jones and others. Internal-combustion engines, by J. W. Anderson and others. Electric power, by D. L. Korman and others. Atomic power, by D. C. Coker. Instrumentation, by D. F. Eckman. Index. Design and production volume: General properties of materials, by M. B. Pilling and H. W. Gifford. Corrosion and corrosion resistance, by F. M. Spitzer and H. H. Uhlig. Materials under stress, by C. E. Smith and others. Mechanics, stress, strength, and machine elements, by V. L. Doughtie. Vibration and noise control, by R. O. Tate. Fasteners, by C. Cornshead. Mechanical springs, by A. M. Wahl. Machine hydraulics, by L. S. Libby.

rust, J. Gearing, by R. L. Cravens. Control mechanisms, by E. K. Smith and others. Metal melting and casting processes, by C. K. Donohue and others. Plastic welding of metals, by R. C. Clarke and others. Joining of materials, by C. W. Obert and others. Dimensional control, by H. S. Sizer and others. Working of nonmetallic materials, by T. D. Perry and J. E. Faloon. Materials handling, by M. W. Fatta. Index.

Note: (1324) A long-established reference book in mechanical engineering. The titles given above are those of sections. Each section contains material parts in which the fundamentals of specific areas of mechanical engineering are stated concisely and are supplemented with engineering data. This edition represents thorough revision. Older material which has been carried over has been systematically revised and there is newly added material on such subjects as atomic power, gas turbines, jet propulsion, heat pumps, plastic materials, and statistical quality control.

LITTLETON CHARLES T

Industrial piping. Special chapter on estimating by R. A. Dickson. New York: McGraw Hill Book Company Inc. 1951 394 p. illus. 23 cm. \$9.00

Contents: Flow sheets, plot plans, and design procedures. Steam piping. Valves. Water piping. Oil piping and the heating furnace. Gas, air, and instrument piping. Alloy piping. Miller diagrams piping materials. Insulation. Piping cost estimation, by R. A. Dickson. Index.

Note: A textbook and guidebook for industrial piping presenting the technical information on the subject needed by practicing pipe designers, machine foremen, and engineering students. The author has not attempted to cover the theoretical aspects of hydraulics, thermal expansion, and reduction, but sets forth practical methods commonly in use for and lay such problems as the design of pipes and the determination of pressure drop. Much information is presented in tabular form. It is assumed that the user of the book has command of algebra and elementary physics.

MARKS LIONEL SIMON editor

Mechanical engineers handbook. Fifth edition. New York: McGraw Hill Book Company Inc., 1951 2236 p. illus. 24 cm. \$15.00. 1979

Contents: Mathematical tables. Weights and measures. Mathematics. Mechanics of solids. Friction. Mechanics of fluids. Thermal properties of bodies and thermodynamics. Transmission of heat by convection, conduction, and radiation. Mechanical properties of materials. Properties of materials. Various problems. Iron and steel. Non-ferrous metals. Fuels. Gas producers and gas cleaning. Industrial furnace. Machine elements. Gearing. Bearings. Pipes and pipe fittings. Stress analysis and vibration. Internal-combustion engines and turbines. Hydraulic turbines. Hoisting and air cranes. Automobiles. Railway engineering. Marine engineering. Aeronautics. Building construction. Heating, ventilation, and air conditioning. Illumination. Machine-shop practice. Industrial management and cost accounting. Statistical quality control. Pumps, compressors, and fans. Electrical engineering. Electronic tubes and coils. Measuring instruments. Automatic control. Surveying. Mechanical refrigeration. Index.

Note: (1327) One of the outstanding engineering handbooks published in the United States of America. More than 80 specialists in the various branches of mechanical engineering have written or revised the signed sections and subsections. Generally speaking, each section includes theory and factual information presented in easy form and also reference data presented in tables. In this edition the general scope and arrangement are the same as in the preceding edition, but the format has been improved by the use of larger type and pages. The inclusion of new or expanded material on such topics as aerodynamics, aircraft jet propulsion, solar heating, heat pumps, dust explosion, elastomers, silicones, and steam power accounts for approximately 400 additional pages.

OBBERG ERIK AND F D JONES

Machinery's handbook for machine shop and drafting room. A reference book on machine design and shop practice for the mechanical engineer draftsman, toolmaker and machinist. Fourteenth edition. New York: The Industrial Press, 1951 1911 p. illus. 18 cm. \$8.00

1980

Note: (1702) The scope and arrangement of this useful compilation of reference information and data relating to machine design and machine shop practice have been altered little since the first edition in 1914. However, with each succeeding edition the material has been revised, expanded, corrected and brought up to date to meet the varied needs of machinists and designers of machinery and tools. The present edition was first published in 1948 and then reprinted in 1959, 1960 and 1961. It carries the same pagination as the thirteenth edition.

PLANT ENGINEERING HANDBOOK. Prepared by a staff of specialists. William Stanlar editor in-chief. New York: McGraw Hill Book Company Inc. 1950 2007 p. illus. 24 cm. (McGraw Hill industrial organization and management series L. C. Morrow, consulting editor) \$15.00 1981

Contents (abridged): Basic industrial costs and cost reduction. Management engineering. Foundations and reinforced concrete. Materials of construction. Industrial steel production and treatment. Power plants. Refrigeration. Industrial instrumentation and control. Industrial piping. Welding. Industrial plant power distribution and lighting. Mechanical power transmissions. Lubrication. Bearings. Electrical power control. Hydraulic power systems. Lubrication. Mechanical packaging. Material handling. Industrial process or control. Heating. Cooling and drying. Trade waste disposal. Physics in the industries. Graphical mathematics. Vibration control and noise abatement. Industrial containers and packaging equipment. Plastics. Patents and copyrights. Index.

Note: A one-volume encyclopedia for plant engineers and others who are responsible to the organization, construction, operation or maintenance of factories and other industrial establishments. Most of the chapters are devoted to engineering and mechanical phases of the large field. However, costs, work simplification, administration of job engineering plans, etc. are given some space. The treatment of each subject is compact, but in general there is enough information under each heading to orient the plant engineer and to provide him with the basic facts about the subject under discussion. Literature references are appended for those who wish to read further. The sections and subsections of the book are signed, and the authors, associated authorities, are affiliated with universities or industrial organizations.

UNITED STATES UNIFORM PLUMBING CODE COMMITTEE

Uniform plumbing code. Report of the Uniform Plumbing Code Committee. Issued jointly by United States Department of Commerce, Office of Domestic Commerce, Construction Division, and House and Home Finance Agency Office of the Administrator Division of Standardized Building Codes and Materials. Washington D. C. Government Printing Office 1949 83 p. illus. 23 cm. (United States. Department of Commerce. Domestic commerce series no. 13) o.p. 1982

Contents: Definitions. General regulations. Materials, weight, and quality. Joints and connections. Traps, vents, interceptors, and backwater valves. Plumbing fixtures. Indirect waste piping and special vents. Water supply and distribution. Drainage systems. Tests and venting. Storm drains. Insulation, tests, and maintenance. Appendixes: Individual water supply. Hot water supply. Sewerage systems. Air gaps, backflow preventers, and drinking fountain systems. Shding the clear supply system. Administration.

Note: The Uniform Plumbing Code Committee is composed of representatives of the Housing and Home Finance Agency the United States Department of Commerce, the National Association of Master Plumbers, the United Association of Journeymen and Apprentices of the Plumbing and Pipe Fitting Industry of the United States and Canada, the United States Public Health Service, and the National Bureau of Standards. The code presents recommended practice for plumbing in residential, commercial, industrial, institutional, and other types of installations. It is based both on practical experience and on research performed at the National Bureau of Standards under the sponsorship of the Housing and Home Finance Agency. Also considered and used by the Committee were tests made at other laboratories, the findings of other research groups, and correspondence

from interested persons. The chief purpose of the code is to serve as technical guide for public health officials and others responsible for the preparation or revision of local planning codes.

MECHANISM AND MACHINE DESIGN

BUCKINGHAM, EARLE

Analytical mechanics of gears. New York McGraw Hill Book Company Inc., 1949 546 p. illus. 23 cm. \$10.00. 1983

Contents: Conjugate action on spur gears. Conjugate action on helical gears. Torque, tooth stress, and undercut. The involute curve and its properties. Involute geometry of spur gears. Involute geometry of helical gears. Conjugate action on helical gears. Involute geometry of helical gears. Involute geometry of spiral gears. Hatched sections. Contact on worm-gear drives. Design of worm-gear drives. Hatched sections. Conjugate tooth action on bevel gears. The contact form on bevel gears. Spiral bevel gears. Stress level or hypoid gears. Gear teeth in action. Efficiency of gears. Analysis of dynamic loads on gear-gear teeth. Dynamic loads on gear teeth. Beam strength of gear teeth. Surface-stress limits of materials. Landing loads for worm gears. Index.

Notes: An important contribution to the design of gears. The author is widely known for his books on gear design. However, this one deals not with practical design but with the basic of design. It is an excellent study of the mathematical analysis of the action of gears of the main types which are mentioned in the chapter titles. Related topics such as the types in which gears were and the function of helical gears under various conditions also are discussed. The book is based largely on the author's own work and there are no literature citations.

HORTON HOLBROOK LYNEDON editor

Ingenious mechanisms for designers and inventors. Volume III. New York Industrial Press, 1951 536 p. illus. 24 cm. \$6.00. 1984

Contents: Cam applications and special cam designs. Interrelated mechanisms from gears and cams. Indirectly driven mechanisms and Geneva mechanisms. Overhead cranking and stop mechanisms. Linking, clamping, and locking devices. Reversing mechanisms of special design. Reciprocating motions derived from cams, gears, and levers. Crank actuated reciprocating mechanisms. Variable stroke reciprocating mechanisms. Mechanisms which provide oscillating motion. Mechanisms providing combined rotary and linear motions. Special clamping mechanisms. Special reciprocating mechanisms. Feed regulating, shifting, and stopping mechanisms. Automatic work feeding and transfer mechanisms. Feeding and ejection mechanisms for power presses. Hoppers and loader selector mechanisms for automatic machines. Miscellaneous mechanisms. Index.

Note: (1544) The first two volumes of the series were edited by Franklin D. Jones, and they have been available to machine designers and inventors. The present volume contains only mechanisms that are not systems in the sense of the other two volumes. The mechanisms are not only described but their essential and unique elements are diagrammed in line drawings. The material has been excerpted from *Machinery*.

HRONES, JOHN ANTHONY AND GEORGE L. NELSON

Analysis of the four-bar linkage its application to the synthesis of mechanisms. New York Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1951. 730 p. 44 cm. \$15.00 1985

Note: The 120 large-scale charts comprising this volume show the trajectories of various points on the connecting rod of a four-bar linkage as the driving crank of the linkage rotates through 360°. For each set of link ratios there are five charts from which the displacement and velocity of points on given linkages may be read directly. Introductory pages explain how the charts were compiled and the manner of their use. The book is of interest to mechanical engineers and machine designers.

JEFFERSON, THEODORE BREWSTER, AND WALTER J. BROOKING

Introduction to mechanical design. New York The Ronald Press Company 1951 612 p. illus. 24 cm. \$6.50 1986

Contents: General Abbreviations. Machine types and their functional design. Fundamental concepts and terminology. Engineering materials and their properties. Forming and fabrication in design. Milled and chipped connections, screws. Welded fastenings and joints. The machine frame and its elements. Shafts, keys, and couplings. Bearings and lubrication. Friction, gears, brakes, and clutches. Gears and Synchros. Belts, ropes, and chain drives. Cams, linkages, and other mechanisms. Springs. Piping and containers for machines. Riffing, stonemaking, and finishing of machines. Standard machine elements and standardizing agencies. Appendix. Index.

Note: An outstanding textbook in which the authors have made special effort to present the subject so that the reader will get clear picture of actual problems and questions in the practical design of machines. The book was the first award in the Machine Design Division of the Competitive Program for Modernized Textbooks on Design sponsored by the James F. Lincoln Arc Welding Foundation. Recently developed machine elements such as ball-bearing shafts bearings are covered, as well as the expected order elements. The book is exceptionally well illustrated and there are approximately 100 tables of engineering data.

LIPSON CHARLES, AND OTHERS

Stress and strength of manufactured parts, by Charles Lipson, G. C. Noll, and L. S. Clock. New York McGraw Hill Book Company Inc. 1950 259 p. illus. 23 cm. \$6.00 1987

Contents: Part I. General principles. General approach to structural problems. Consideration of stress. Consideration of strength. Relations between stress and strength. Part II. Chapter. Geometric stress concentration factors. Fatigue stress concentration factors for welded joints. Fatigue stress concentration factors for quenched and drawn steels. Allowable stresses for various materials. Allowable stresses for limited life. Appendix: Reference and supplementary data for charts. References. Author references.

Note: An essential reference book of special interest to design engineers and metallurgists. General considerations are covered in the first part. The heart of the book is the second part. Here are given 175 charts on which are shown such information as effects of heat, grooves, keyways, etc., on the strength of parts subjected to bending, torsion, and tension. The charts are supplemented by notes and references to the papers on which they are based.

SAHAQ LEON MARR

Kinematics of machines. Revised printing. New York The Ronald Press Company 1952 249 p. illus. 24 cm. \$4.50. 1988

Contents: Fundamental concepts. Motion in machines. Instant centers. Linear and angular velocities. Accelerations in machines. Velocity and acceleration diagrams. Cam, belt, friction surfaces. Gear. Gears on intersecting and nonintersecting shafts. Gear trains. Flexible links. Other used mechanisms. General instructions for drawing mechanism problems. References. Index.

Note: (1712) A text designed for use as introductory text through courses offered to mechanical engineering students. The treatment takes into account the present-day demands upon the knowledge of machine designers due to the increasing use of complex and high-speed machinery. Problems in acceleration and velocities are solved graphically rather than by analytical methods. The reader for change in this "revised printing" is thorough revision of the chapter on accelerations. The chapter is now 12 pages longer. The additional pages have been inserted without alterations in the page numbers in the balance of the book.

SHAW MILTON C., AND E. FRED MACKS

Analysis and lubrication of bearings. New York McGraw-Hill Book Company Inc., 1949 618 p. illus. 24 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker consulting editor) \$10.00 1989

Contents: Principal notation. Introduction. Bearing load analysis. Dimensional analysis. Aircraft-engine bearing loads. Hydrodynamic lubrication. Dynamically loaded bearings. Journal bearings. Hydrodynamic thrust bearings. High speed considerations. Rolling-contact bearings. Boundary considerations. Bearing evaluation. Appendix. Problems. References and selected bibliography. Index.

Note: A comprehensive technical treatise designed for use both by advanced students of engineering and practicing engineers. Instead of assuming bearing operating at constant speeds under ideal dynamic conditions, the authors have endeavored to present an analysis of bearing conditions as they actually exist in operating machinery. The analysis of bearing loads in turbocharging aircraft engines is especially detailed. Many examples, such as testing machines for bearing, and special kinds of lubricants, are discussed though not mentioned in the table of contents. The selected bibliography runs to nearly 400 entries and contains references to books, periodicals, and free patents.

VALLANCE, ALEX., and VENTON LEVY DOUGHTIE

Design of machine members. Third edition. New York McGraw Hill Book Company Inc., 1951 500 p. 24 cm. \$6.00. 1990

Contents: Introduction. Engineering materials. Stresses in elementary machine members. Design stresses and factor of safety. Cylinders, pipes, and wires. Metal fits and tolerances. Flat plates and cylinder heads. Riveted joints. Welded joints. Threaded fasteners and power screws. Keys, cotters, and hawthorn joints. Shafts. Lubrication. Bolts and ball bearings. Couplings and clutches. Brakes. Springs. Gears. Belts and screw gears. Bolts and lock washers. Rope drives. Hoisting and power chains. Miscellaneous machine members. Index.

Note: (1355) A standard engineering college textbook. The discussions of some topics are full enough to make it useful also to men out of college. It is not professional machine designers but who must occasionally design machine parts. The present edition is 59 pages shorter than the preceding edition. This change has been accomplished chiefly by omitting the type so that the typical page contains more matter. New material has been added on such topics as stresses, riveted joints, threaded fasteners, and gears.

YORK, JOHN EDMUND

Methods of joining pipe standard and special joints for different classes of pipes and pipe materials including steel cast iron dur iron brass, copper lead, chemical tile, vitreous tile synthetic resin plastic, concrete glass, transite and wood. New York The Industrial Press 1949 236 p. illus. 22 cm. \$3 00 1991

Contents: Screwed joints for ferrous and brass pipe. Flanged pipe joints. Welded and brazed pipe joints. Methods of joining cast iron pipe. Joints for vitreous tile. Joints for plumbing and chemical-resistant pipe. Joints for vitreous tile and concrete pipe. Joints for transite pipe. Joints for wood pipe. Joints to permit movement. Index.

Note: Most all of the methods which have been devised for joining pipe are described in this book, but most of the practical ones are here. The larger part of the space is devoted to joints for metal pipes, but non-metallic piping systems, such as transite, wood, and plastic, are adequately covered. Each type of joint is discussed as to design, construction, advantages and disadvantages. Numerous line drawings show details of joints. American Water Works Association, Society of Automotive Engineers, and American Petroleum Institute specifications are frequently cited.

CONTROLS AND SERVO-MECHANISMS

AHERNDT WILLIAM ROBERT and JOHN F. TAPLIN

Automatic feedback control. New York McGraw Hill Book Company Inc., 1951 412 p. illus. 24 cm. \$7.50 1992

Contents: Introduction. Dynamical analysis of physical systems. The operational approach to feedback control. Frequency response analysis. Feedback control loops. Multiple-loop feedback control systems. Design considerations. Instability and desensitivity servomechanisms. Pneumatically operated servomechanisms. Temperature regulation. Speed governing. Pressure, flow and liquid level. Climax. Appendix. Index.

Note: A practical treatment on the engineering level. The theoretical fundamentals as outlined, and mathematical methods of analysis of controlling systems are presented. However, the mathematical aspects are not pursued to the advanced regions, characteristic of many books on the feedback principle. Much attention is paid to practical aspects that would be of concern to engineers designing controls and servomechanisms. Though intended mainly for engineering students, the book is potentially useful to graduate engineers and others in industry who find themselves in need of a inclusive introductory treatment.

CHESTNUT, HAROLD, and ROBERT W. MAYER

Servomechanisms and regulating system design. Volume 1. New York John Wiley & Sons, Inc. 1951 505 p. illus. 22 cm. \$7.75 1993

Control. The automatic control problem. Manipulation of complex systems. Solution of linear differential equations. Laplace transforms for the solution of linear differential equations. Steady-state operation with sinusoidal driving functions. Methods of determining system stability. Typical control elements and their transfer functions. Types of servomechanism and control system. Common place representation of feedback control system performance. Design use of complex plane plot to improve system performance. Attention concepts for use in feedback control system design. Application of simulation phase diagrams to feedback control design problems. Multiple-loop and multiple-input feedback control systems. Comparison of steady state and transient performance of servomechanisms. Bibliography. Problems. Index.

Note: This work is an introduction to the subject, but an introduction for trained engineers. It will make practical use of the knowledge. The necessary mathematical background is covered in chapters 1 to 4. After these chapters, the authors discuss the theory of servomechanisms by the complex plane method. They then discuss the theory of the differential by using this method in the systems of feedback control systems are solved by the simulation frequency theory of Bode. This approach to design is simplified and examples of its applications are given. The authors are associated with the General Electric Company and the book appears in the publisher's "General Electric series." The discussions are full enough and enough examples are included to make the book suitable for self instruction. The second volume, still to be published, will deal more particularly with design.

CHUTE GEORGE M.

Electronic motor and welder controls. New York McGraw Hill Book Company, Inc., 1951 348 p. illus. 24 cm. \$7 00. 1994

Contents (abridged): Part I, Resistance welding controls. Basic welding controls. G-E sequence weld timer. G-E high speed sequence combinations. Synchronous timing. G-E sequence combinations. Slope control. Transformer welding. Synchronous combinations. Welding with limited power supply. Three phase welding controls. Part II, Motor controls: Fan speed controls. Photocell speed control. Motor generator control of motor speed. The electronic speed limit. The photoelectric timer. Rubber calendar control. Multi-color printing. Paper-machine control. Index.

Note: (2437 1847) A practical book suitable for shop electricians, plant engineers, and others whose work includes the selection, installation, or maintenance of electronic controls for resistance welding and motor-operated machines. The general principles of such controls are discussed briefly but most of the book is devoted to specific descriptions of the mechanisms, circuits, and operation of standard commercial controls. Many recent types of controls and, generally speaking, more explicit descriptions of them are provided in this book than in the author's *Electronic control of resistance welding* (1941) and *Electronics in industry* (1944). Many readers will still need the earlier books for background information.

DIEBOLD JOHN

Automation The advent of the automatic factory. New York D. Van Nostrand Company Inc. 1952 181 p. 22 cm. \$3.00. 1995

Contents. Note on the word automation. The problem of automation. Control and the computer. The routine of product and process. Making machines automatic. Automatic handling of information. What will automation mean to business? Some social and economic effects of automation. Index.

Note: A study of the possibilities, limitations, and social and economic consequences of the revolutionary new machine of the electronic age and... but they will mean in terms of jobs, cost of goods and services, standards of living, and increased leisure time. The author considers the effects upon engineering, education, management, and labor of the new electronic machine, some of them already available and in operation in offices and factories.

DRAPER CHARLES STARK AND OTHERS

Instrument engineering. By Charles Stark Draper, Walter McKay and Sidney Lees Vol. 1: Methods for describing the situations of instrument engineering. New York: McGraw Hill Book Company Inc., 1952 269 p. illus. 29 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker consulting editor) \$7.00 1996

Contents: The operating system. Diagrams for describing operating systems. Performance operators and performance functions for operating systems. Basic and dynamic operating conditions—steady state. Basic performance. Dynamic performance. Derivation of performance equations. Dimensional analysis. Concepts and notation for the comparison of physical quantities. Concepts and notation for the description of generalized operating system performance. Application of statistical methods to instrument engineering. Representation of physical situations by mathematical terms. Description of performance in terms of statistical response characteristics. Bibliography. Index.

Note: The first volume published of three-volume work which promises to be substantial contribution to the literature on descriptive, measuring, and control instruments. The instrument—in this first volume at least—is studied in its entirety. The work is addressed to students and to engineers in industry who will be or are concerned with the design, installation, or use of instrument systems. It has been based on the activities and experience of the Aeronautics Instrument Section and the Instrumentation Laboratory of the Aeronautical Engineering Department of Massachusetts Institute of Technology.

ECKMAN DONALD P

Industrial instrumentation. New York: John Wiley & Sons, Inc. 1950 396 p. illus. 21 cm. \$5.50 1997

Contents: Qualities of measurement. Expansion thermometers. Thermocouple temperature measurement. Resistance thermometers. Resistance temperature measurement. Methods for comparison analysis. Mechanical measurements. Measurement of pressure and vacuum. Measurement of head and level. Flow-measuring. Process instrumentation. Appendix. Index.

Note: Although this book is essentially a text for engineering students, it can be used also by industrial and chemical engineers as an introductory guide to the principles and methods of measurement which are of use in the processing and manufacturing industries. Emphasis is placed on instruments used in measuring temperature, pressure, rate of flow and composition. Each class of instrument is preceded by review of the physical principles involved; and the construction, operation, and applications of selected instruments are described. Schematic diagrams and sample problems are included.

ERNST WALTER

Oil hydraulic power and its industrial applications. New York: McGraw-Hill Book Company Inc. 1949 366 p. illus. 24 cm. \$3.00 1998

Contents: Fundamental units of measurement. Properties of hydraulic fluids. Hydrostatics. Hydrodynamics. Various flow viscous and turbulent flow. The generation of oil hydraulic power. The utilization of oil hydraulic power. The transmission of hydraulic power. The control of oil hydraulic power. The application of oil hydraulic power. Industrial applications of oil hydraulic power. Index.

Note: The utilization of controlled oil to transmit power has application in a wide variety of mechanisms, from the simple hydraulic

brake to highly complicated gun turret machinery. This book deals primarily with the industrial use of this mode of power transmission and its application in the design and construction of electromechanical and heavy machine tools. In the early chapters the fundamentals of fluid mechanics are stated concisely; the remainder of the book is devoted to fairly detailed descriptions of methods and mechanisms.

MECHANICAL DRAWING

FARMER, J. HAROLD, AND OTHERS

Illustrating for tomorrow's production by J. Harold Farmer Abbott J. Hoecker, and Francis F. Vavrin. New York: The Macmillan Company 1950 199 p. illus. 24 cm. \$5.75 1999

Contents (abridged): Part I. Preliminary to production illustration: The purpose of production illustration. Isometric and oblique drawing. Method for making true-scale perspective drawings. Mechanical method for exploding views. Finished drawings based on the mechanical construction principle. Part II. Making production illustrations: The rough layout. Rendering. Mating and presentation of drawings. Representation of illustrations. Part III. Abridged illustration. Part IV. The production illustration in advertising and industrial design. Bibliography.

Note: A short but practical introduction to the technique of making perspective drawings of such things as machines and machine parts for use in manufacturing and also for reproduction in publications such as instruction manuals. Approximately half of the space is devoted to explanations of illustrations, all of which clearly depict the making of production illustrations or show finished illustrations. The book is potentially useful to students and artists who wish to prepare for practical work in the field. The fourth part is only eleven pages long and hence is little more than an outline of the use of production illustrations in advertising and industrial design.

GIESCKE, FREDERICK ERNEST AND OTHERS

Technical drawing by Frederick E. Giescke, Alva Mitchell and Henry Cecil Spencer. Third edition. New York: The Macmillan Company 1949 851 p. illus. 24 cm. \$7.50 2000

Contents: Introduction. Instruments and materials. Instrumental drawing. Geometry of technical drawing. Lettering. Projections. Multiview projections. Sectional views. Auxiliary views. Revolution. Auxiliary projection. Oblique projection. Perspective. Technical sketching. Intersection and development. Dimensioning. Fasteners. Shop processes. Working drawings. Gearing and cams. Pumps, fittings, and valves. Welding. Drawing. Patent drawing. Organic. Architectural drawing. Structural drawing. Topographic drawing. Aeronautical drawing. Representation of drawings. Appendix. Index.

Note: (1544) The clarity and thoroughness with which many aspects of technical drawing are presented in this volume make it of value both as a text in colleges and vocational schools, and as a ready reference book. The technique of making technical drawings are explained in detail, but the emphasis is on fundamental principles. The many excellent drawings and illustrations constitute a large and important part of the text. This edition has been enlarged and revised. In particular, chapters dealing with such topics as dimensioning, isometric projection, shop processes, and architectural drawing have been rewritten and expanded and new chapter on aeronautical drawing has been added.

KATZ, HYMAN H.

Technical sketching and visualization for engineers. New York: The Macmillan Company 1949 163 p. illus. 26 cm. \$5.00 2001

Contents: Introduction. Technical sketching. Straight lines. Curved lines. Proportions. Lettering—symbols—problems. Orthographic sketching. Pictorial sketching. Sketching measurements from the model. Non-graphical visualization. Appendix. Index.

Note: A good exposition of the techniques of freehand pictorial sketching which are useful in visualizing mechanical ideas and designs. There is also some discussion of clay and cardboard models. Methods which can be followed to produce the fairly precise sketches which are most useful in the representation of machines and machine parts are emphasized. The book is intended for students and engineers already familiar with mechanical drawing.

LENT, DEANE

Machine drawing. New York: Prentice-Hall, Inc., 1951. 523 p. illus. 24 cm. (Prentice-Hall engineering design series, John A. Hrones, editor) \$7.75 2002

Contents: Part I. The design phase: The design of machine. Part II. The detail phase: Detail drawings. Shape description. Technical sketching. Auxiliary and partial views. Sectional views. Symbols and conventional representation. Size description—dimensioning. Manufacturing processes. Control of manufacturing accuracy. Technical aspects of precision drawing. Finished detail drawings. Part III. The assembly phase: Assembly drawings. Standard parts. Problems. Appendix. Index.

Note: A textbook organized so that it may be used in either vocational school or college courses offered to students who are preparing to become draftsmen or to work in machine design. Only those aspects of mechanical drawing which are useful in the drawing of machine parts are covered. The documents are clear and full enough so that in most parts they can be understood without the assistance of an instructor. The author is a member of the faculty of Massachusetts Institute of Technology.

LUZADDER, WARREN JACOB

Technical drafting essentials for vocational and technical students. Architectural drafting section, by William S. Hornung. New York: Prentice-Hall, Inc., 1950. 326 p. illus. 24 cm. \$4.00 2003

Contents (abridged): Drawing instruments and equipment. Engineering geometry. Technical lettering. Multi-view drawing. Freehand drafting. Sectional views. Conventional practices and representations in orthographic drawings. Auxiliary views. Revision, ink work and tracing. Dimensioning. Scribe threads, fasteners, and welding. Working drawings. Piping drawings. Gears and cams. Pictorial drawing. Sheet metal drawing. Map sketching. Structural drafting. Architectural drafting. Appendix. Index.

Note: (1571) A revision of the author's well-known *Fundamentals of engineering drawing* for use in courses in high schools and trade schools and for self-instruction. It contains considerably less material than the earlier book but is full enough to prepare students for practical work. There are 115 figures, many of which include reproductions of more than one drawing.

RULE, JOHN THOMAS AND EARLE F. WATTS
Engineering graphics. New York: McGraw-Hill Book Company Inc., 1951. 298 p. illus. 24 cm. \$4.50 2004

Contents: The straight line and circle. The construction of the circle sections. Projective constructions. Rounding, fillets, and spirals. Vector geometry. Graphical scales. Empirical curves. Periodic curves. Graphical calculus. The geometry of projection drawing. Auxiliary constructions of practical drafting. Appendixes: American drawing standards. Geometric proofs. Table of chords. Table of logarithms. Table of natural trigonometric functions. Table of sines, cosines, and tangents. Table of e^x -hyperbolic functions. Index.

Note: In this college textbook on engineering drawing the use of graphic methods in the analysis of engineering problems is given considerably more emphasis than are the techniques of making representative drawings. Both aspects are well covered as to theory and as to basic techniques, but there is comparatively little in the book on the drawing of machine parts, lettering, etc. On the other hand, such chapters as that on graphical calculus cover phases of the subject that is omitted entirely from some of the older texts.

TURNER, WILLIAM WIRT AND OTHERS

Basic engineering drawing: a text integrating engineering drawing, descriptive geometry, machine drawing. By William Wirt Turner, Carson P. Buck, and Hugh P. Ackert. New York: The Ronald Press Company, 1950. 669 p. illus. 23 cm. \$5.50 2005

Contents: Drafting equipment. The use and care of drafting instruments. Conventional lines and their application. Lettering. Orthographic projection. Freehand sketching. Auxiliary views. True length. True size. Finding points. Perpendicular relationships.

Revelation. Intersections and developments. Pictorial drawing. Isometrics and conventions. Dimensioning. Fasteners, piping, and welding. Working drawings. Gears and cams. Gaskets. Drafting as it applies to various types of engineering. Appendix. Index.

Note: A textbook for use in full-length introductory courses in engineering colleges. As indicated in the subtitle, it includes certain allied subjects, such as descriptive geometry, which are often taught as separate courses. Also that it is more emphasis on perspective and other types of pictorial drawings than is found in some of the long established texts. This aspect reflects the wide use of such drawings in American industry, but they have been somewhat more for learning machines and other mechanics to follow than conventional plane draught. The appendix includes useful glossary. The authors are members of the faculty of the Department of Engineering Drawing of the University of Notre Dame.

LUBRICANTS

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on functional tests for ball bearing greases. Presented at the fifty-first annual meeting American Society for Testing Materials, Detroit, Michigan, June 23, 1948. Philadelphia: American Society for Testing Materials, 1949. 103 p. illus. 23 cm. (Special technical publication no. 84) Paper \$1.00. 2006

Contents: Introduction, by R. C. Adams. Development of functional tests for ball bearing greases. Test methods for the lubricant industry, by D. F. Wilcock and M. Anderson. Laboratory performance tests for ball bearing greases, by M. Uebel and others. Service experience with greases, by W. F. Everett and C. L. Perry. Factors affecting ball bearing tests, by J. M. Colquhoun and J. R. Bell. General discussion.

Note: The papers in this symposium are written for manufacturers and users of ball bearing greases. Prepared by various authors, they describe the methods and results of tests for evaluating and selecting lubricating greases. Recommendations of the results and conclusions derived from each type of test are included.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on methods of measuring viscosity at high rates of shear. Presented to the API Committee on Petroleum Products, Chicago, Ill., November 7, 1949 and in Research Division VII on Flow Properties ASTM Committee D 2 on Petroleum Products and Lubricants, Washington D. C., February 24, 1950. Philadelphia, Pa.: American Society for Testing Materials, 1951. 47 p. illus. 22 cm. (Special technical publication no. 111) Paper \$1.35 2007

Contents: Introduction, by J. C. Gossman. Viscosity-shear behavior of two new Newtonian polymer blended oils, by M. R. Finkle and others. The Kinzberg tapered-pipe viscometer for determining viscosity variations with temperature and rate of shear, by S. J. Kinzberg. Comparison of viscosity-shear data obtained with the Kinzberg tapered-pipe viscometer and the FRL high shear capillary viscometer.

Note: These papers report on series of studies which were made to determine the viscosity of special oils and lubricants under various rates of shear. Resulting data are tabulated, and the techniques and equipment employed in the tests are described in detail. Of particular interest to lubrication experts and mechanical engineers.

THOMSEN, THOMAS CHRISTIAN

The practice of lubrication: an engineering treatise on the origin, nature and testing of lubricants, their selection and application and

use. Fourth edition. New York McGraw Hill Book Company Inc., 1951 617 p. illus. 24 cm. \$8.50 2008

Contents (abridged) Mineral lubricating oils. Fluid oils and fats. Engine oil additives. Solid lubricants. Testing lubricants. The laws of friction. Lubricating applications. Bearings. Ring-and-rod bearings. Electric generators and motors. Piston thrust bearings. Ball and roller bearings. Michell and Messy Journal bearings. Steam turbines. Bearing lubrication of high-speed occlusal-type steam engines. Crank-chamber explosions. Bearing lubrication of marine steam engines. Railway rolling stock. Transmission shifting. Machine tools. Turbine machinery. Mine-car lubrication. Blowing engines and air compressors. Refrigerating machines. Gas engines. Gasoline engines. Diesel engines. Land and marine. Oil recovery and purification. Oil storage and distribution. Cutting lubricants and coolants. Index.

Note: A practical review of lubrication from the engineering viewpoint rather than that of the petroleum industry. The general chapters on lubricants at the front of the book give background information to the engineer, but they are somewhat less valuable than the compact discussions of lubrication of specific types of bearings and machines that constitute the bulk of the book. New material in this edition includes the chapter on additives, short discussion of the lubrication of aircraft engines, and discussion of newly developed types of bearings, such as fabric bearings for the full range of rolling mills, rubber and fiber bearings. There is no bibliography and the index fails to do justice to the contents of the book.

TOOLS

AMERICAN SOCIETY OF TOOL ENGINEERS

Tool engineers handbook a reference book on all phases of planning, control, design tooling, and operations in the mechanical manufacturing industries. Frank W Wilson editor in-chief New York McGraw Hill Book Company Inc., 1949 2070 p illus. 23 cm. \$15.00 2009

Contents (abridged) Tool engineering economics. Production analysis and cost estimating. Job costing and control. Quality planning and control. Time study and cost saving. Plant layout. Identifying costs and measuring systems. Drafting room standards and practices. General structure and properties of metals. Heat-treating and hardening. Principles of metal cutting and machinability. Properties and workability of woods. Properties and workability of plastics. Feed casting. Metal mold casting. Plastic casting. Investment casting. Powder metallurgy. Elements of metals. Single-point lathe. Single-point automatic screw machines. Multiple-point automatic lathe and chucking machines. Vertical boring mills and turret lathes. Facing. Boring and planing. Gear milling and hobbing. Thread grinding. Milling. Power backing. Circular saw and bridle cutting. Grinding. Superfinishing. Free-wheel bending. Metal spinning. Rotary sawing. Drill, machine, and press tapping. Heat treating of metals. Cryogen (dome) cutting. Resistance welding. Assembly methods for bolts, screws, and rivets. Wire stitching and stitching. Gages. High-frequency dielectric heating. Plastic joining of materials. Shot peening. Bores and dynamic balancing. Allowances and tolerances for cylindrical fits. Inspection equipment and methods. Non-destructive testing and inspection. Master models. Limited production tooling. Hydraulic equipment. Pneumatic equipment. Electronic drives and controls. Ball and roller bearings. Springs. Mathematics. Reference tables. Index.

Note: An encyclopedic compendium of information useful in tool engineering. Because tool engineering touches upon most of the processes employed in the forming of metals and other materials, the book is also virtually an encyclopedic of machine shop techniques. There are 118 chapters, each one the work of an expert and stimulating reading. The sections are signed and, furthermore, the name of the specialist who reviewed each section is given. The book is generously illustrated. There is an exceptionally detailed index. Various parts of the book have been issued separately by the same publisher.

BAKER, WARREN AND JOSEPH S KOZACKA
Carbide cutting tools how to make and use them. Chicago American Technical Society 1949 416 p. illus. 22 cm. \$5.50. 2010

Contents: Machine tools and the carbide. Converting to carbide. Tool angles, machinability. Tipping carbide tool. Grinding single-point tools. Cutting power, speeds, feeds. Carbide tool design. Cool-

ants and carbide tools. Carbide turning tools. Carbide milling cutters. Shaping, milling cutters. Multiple edge carbide tools. Cutting speeds, feeds, forces. Multiple-tool tool design. Selection of carbide. Tool materials, generally. Grinding and use of tools. Index.

Note: An impressive compendium of information on carbide cutting tools. It was written for use as text in vocational schools, and as self-instruction book by practicing machinists and tool designers. It provides an inclusive treatment of the subject from the practical viewpoint. The educational value of the text is increased by very liberal number of illustrations, which show tools and machining operations, and by numerous tables of reference data. Review questions and helpful lists of references are appended to the chapters.

DOYLE, LAWRENCE EDWARD

Tool engineering analysis and procedure.
New York Prentice-Hall, Inc. 1950 499 p
illus. 22 cm. \$6 65 2011

Contents: The nature and scope of tool engineering. Principles of toolmaking. Problems of economy. Planning and tooling for economy. Principles of estimating. Short cuts and variations in estimating. Manufacturing principles applicable to process and tool planning. Planning practice. Principles of dimensioning. Determination of the requirements and conditions of process. Determining the operations of process. Determining the sequence of operations of process. Principles of locating. Tool design. Clamping principles. Dimensional analysis. Index.

Note: One of the essential preliminary steps in the manufacture of a new metal product is "tooling up." If the article is to be manufactured economically as commercial quantities, not only must it be so designed that it can be produced without waste of material or labor but special tools—such things as fixtures, jigs and dies—must be designed and made so as to render rapid and accurate manufacturing possible. This book provides an overall introductory view of the problems and methods of these operations. There is no attempt to show how the special tools are made by the tool maker. The book will be useful to students preparing for tool engineering, production and tool engineers, and machinists who wish to gain possession into tool engineering. It is suitable either for classroom use or home study.

GWIAZDOWSKI ALEXANDER PETER

Tool engineering. Appleton, Wisconsin C. C. Nelson Publishing Company 1951 306 p. illus. 24 cm. \$6 00. 2012

Contents: The engineer—origin of the machine. Industrial organization. Limits, tolerance, and allowances. Measuring and gauging. Problems and tool design. Grinding and honing process. Milling process and fixtures. Work-holding fixtures. General rules for the design of jigs and fixtures. The branching process. The drilling process. The reaming and tapping process. The extrusion of metals. The stamping process. Case calculations and shop drawings of gears. Carding shafts. High-speed and commercial tool steels. Heat treatment of ferrous alloys. Jigs and fixtures made by welding process. Jig boxes and fixturing methods. Review questions and assignments. References for further reading. Names and addresses of manufacturers who supplied illustrations. Index.

Note: An introductory textbook for engineering students, especially students who are preparing for career in the manufacturing of interchangeable parts. The design of tools for the manufacturing of particular parts—a connecting rod cap for an internal combustion engine—is used as a thread on which to string the exposition. However, the student is introduced to wide range of topics which are of concern to the tool engineer. Many illustrations of modern machine tools are included. The author is Professor of Industrial Engineering in Tri-State College.

HINE, CHARLES R.

Machine tools for engineers. New York McGraw Hill Book Company Inc., 1950 355 p. illus. 23 cm. \$4 00 2013

Contents: The engineer and the machine tool. Cutting tools. Measuring. The lathe. Threads and threading. Hole making and the drill press. The shaper. The planer. The milling machine. Reaming. Abrasive and grinding. Microfinishing. Boring machines. Gear making. Jig boring. Sawing. Turret lathes. Appendix. Index.

Note: An introductory work designed primarily for students of engineering. It describes the major machine tools, their principles of operation, uses, and limitations. Certain operations and processes such as measuring and superfinishing are described in connection with the discussion of the instruments or the machines used

in the operations. Numerous reproductions of photographs of present-day machine tools are included. The material is presented from the engineer's rather than the machine tool operator viewpoint. The author is a member of the faculty of Rosemead Polytechnic Institute.

ST CLAIR, LEO J

Design and use of cutting tools. New York: McGraw Hill Book Company Inc., 1952 437 p. illus. 24 cm. \$8.00 2014

Contents. The single-point cutting tool. The side relief angle. How to measure angles. The end relief angle. The nose radius and point angle relief. The angle of clearance. Triple-fluted grinding. The side rake angle. The back rake angle. The side cutting edge (SCE) angle. The end cutting edge angle. The nose radius and the point angle. The cutting rake angle. The proper choice of cutting tools. The cutting edge and chip formation. Chip breakers. Spindle and feeds. Grinding cutting tools. Appendix. Index.

Note: An exceptionally detailed treatment of cutting tools used in the machining of metals. As the chapter titles indicate, much attention is given to such points as relief, clearance, rake and cutting-edge angles. These matters and other pertinent ones are discussed in detail and are shown in numerous illustrations. Full consideration is given to differences in tools made of the various cutting materials such as the tool steel, stellite and cemented tungsten carbide. The book will be valuable both to practical machinists and to mechanical engineers in charge of machine shop operations.

STANLEY, FRANK ARTHUR

Punches and dies layout construction and use. Fourth edition. New York: McGraw Hill Book Company Inc., 1950 583 p. illus. 24 cm. \$6.75 2015

Contents (abridged). Section I. Blanking and piercing dies and other tools: Types and applications of press tools. Dies for piercing and blanking. Certain dies and their uses. Section II. Compound dies and other cutting dies. Principles of compound dies. The job press and its dies. Section III. Dies for shearing and drawing. Section IV. Drawing processes and tools: Drawing dies and drawing methods. Combination dies and compound dies. Section V. Bending and forming tools and operations: Methods of bending and forming. Sheet-metalworking tools. Section VI. Iron dies, ramming and loading dies, and mechanisms. Section VII. Presses and dies for large parts. Section VIII. Tool standards, layout and construction methods: Punch and die standards. Laying out and making templates and dies. Layout tool accuracy in the work. Drawing machines on the work. List of references. Index.

Note: (1959) A well-known handbook written for the guidance of machinists and tool designers. It is competently written and fully illustrated. Technical developments which have occurred since 1941 have been incorporated into the text of this edition, and new chapters have been added on carbide dies, drawing dies, and drawing machines. The chapter arrangement has been altered and the data previously found in "various supplements" is now included in the appropriate sections.

METALWORKING AND MACHINE SHOP PRACTICE

AMERICAN SOCIETY FOR METALS

Machining—theory and practice. A series of thirteen educational lectures presented to members of the A.S.M. during the thirty-first National Metal Congress and Exposition Cleveland, Cleveland American Society for Metals 1950 504 p. illus. 23 cm. \$6.50 2016

Contents. Metal cutting: art to science, by H. Ernst. Metal cutting research—theory and application, by M. E. Merchant. Cutting tool theory, by M. C. Shaw. Materials and machinability, by F. W. Swadlow. Development of the microstructure of metals by machining, by L. M. Chermak and G. J. Ophelt. Metalworking and machinability of steels, by J. D. Aronson. Tool steels, by G. A. Roberts. Cemented carbide tool materials, by J. C. Richmond. Heat in metal cutting, by A. O. Schmidt. Evaluation of machinability of rolled steels, forgings and cast irons, by M. Field and M. Zlatin.

Tool life testing, by G. W. Rantow. Some metallurgical aspects of grinding, by L. F. Tatum. Economics of machining, by W. W. Gilbert.

Note: The keynote of this volume is the application of the findings of research in practical metal-cutting techniques. The great advances which have been made in recent years in the understanding of what happens when metals are machined and how factors affect machinability are evaluated and interpreted for the benefit of engineers and metallurgists. The papers are addressed primarily to professionals already at work in metal working industries. They are supplemented by illustrations and references to related literature.

AXELROD AARON

Machine shop mathematics. Second edition. New York: McGraw Hill Book Company Inc., 1951 359 p. illus. 24 cm. \$3.60. 2017

Contents. Shop arithmetic. Measuring tools of the machine shop. Weights and measures. Practical measurements. Fractions and its applications. Ratio and proportion. Geometric constructions. Shop trigonometry. Speeds of pulleys and gears. Speeds and feeds. Lathe work. Gears. Milling machine work. Appendix. Index.

Note: (1604) A standard elementary text for use in vocational school courses and for home study purposes. Emphasis is placed on the practical application of mathematical procedures at the high-school level. Numerous illustrative exercises and review problems constitute an important feature of the exposition. In the edition new chapters have been added on basic arithmetic operations, ratio and proportion, and percentages.

BASTIAN EARL L. H.

Metalworking lubricants their selection, application and maintenance. New York: McGraw Hill Book Company Inc., 1951 357 p. illus. 24 cm. \$6.00. 2018

Contents. An introduction to metalworking lubricants. Types of metalworking lubricants. Cutting fluids. Drilling fluids and compounds. Extraneous and extreme lubricants. Mold compounds. Tapers and tapping lubricants. Milling oils. Metal-cutting processes. Lubricating—quenching and tempering mediums. Machine and lubrication. Lubrication of press, drawbench, and large equipment. Applications of lubricants. Lubricant quality control. Lubricant test methods and specifications. Appendix. Index.

Note: This book covers not only cutting oils but all varieties of the lubricants used in metal working, as well as some materials as plastics. Lubricants in the working of such non-metallic materials as plastics. The treatment is practical, and the book is suitable for such use as engineers in charge of metalworking processes. Compact discussions of the processes are included, along with discussion of appropriate lubricants. The text is presented in illustrated, selected references are appended to the chapters, and there are numerous tables of engineering data.

BEGEMAN MYRON LOUIS

Manufacturing processes. Third edition. New York: John Wiley & Sons, Inc., 1952 603 p. illus. 24 cm. \$6.00 2019

Contents (abridged). Foundry practice. Pattern work. Metal casting. Special casting methods. Heat treatment of steel. Welding and metal-joining processes. Heat forming of metals. Cold forming of metals. Powder metallurgy. Plastic materials. Inspection. Lathes and lathe tools. Turbine and automatic lathes. Threads and thread cutting tools. Shapers and planers. Drilling and boring machines. Milling machines and cutters. Gears and gear-cutting machines. Metal sawing. Broaching machines and tools. Abrasives, grinding wheels, and grinding machines. List of tables. Index.

Note: (1744*) A comprehensive, descriptive survey of present-day manufacturing methods and machines. Its purpose is to furnish applicable engineering students and also engineers and managers concerned in industry about the available processes and their equipment. Most of the book is devoted to manufacturing with metal. The author has included one chapter on plastics. The present book edition appeared in 1947. Although good deal of matter has been carried over to this edition, the amount of revision appears to be adequate. The type has been reset and the book given a more attractive format.

BLUM WILLIAM, and GEORGE B. HODGBOOM

Principles of electroplating and electroforming (electrotyping) Third edition. New

York McGraw Hill Book Company Inc.,
1949 455 p. illus. 24 cm. \$7.00 2020

Contents (abridged): Principles of chemistry Principles of electricity and electrochemistry Factors that govern the character and distribution of electrodeposits Analysis of mixtures Preparation for electroplating Electrical equipment Tanks and their equipment Types of metals and solutions Alloy deposition Appendix Author Index Subject Index

Note: (2406c) In the twenty years that passed between the second and third editions of this well known book the basic knowledge of electroplating was greatly extended and the techniques of plating considerably modified. These developments are adequately reflected in this edition. The book is designed for practical workers in the industry and for chemists and engineers. It is not a speciality in plating but who need, on occasion, recipes and reliable descriptions of plating principles and techniques. Chapters 12 to 21 the titles of which are not listed above, discuss special metals. Numerous formulas are incorporated in the text, and a selection of pertinent literature is cited in footnotes.

BOSTON ORIAN WILLIAM

Metal processing. Second edition. New York John Wiley & Sons, Inc., 1951. 763 p. illus. 24 cm. \$7.50 2021

Contents (abridged): An introduction to the study of machines, tools, and processes. Lathes. Shapers. Planers. Broochers and similar tools for single-point tools. Cutting fields. Metalworking. Milling. Drilling. Reaming. Boring. Turning. Grinding. Turret lathes, screw machines, and lead-controlled production turning machines. Automatic turning machines. Planishing. Ovens and their associated tools. Grinding, polishing, buffing, honing, and lapping. Presses, punches and dies, and formed parts. The quality of surface finish. Drives for machine tools. Accounting and costs. Index.

Note: (2407) A treatise on machine tools, mechanism and metal cutting written for college students of engineering. For the nonengineer reader the book's special virtue is that it gives more comprehensive view of the subject than the engineer's specialist text is provided in books written for men who operate the machine tools. In this edition there is a fair amount of new material including the chapter on surface quality.

BRUCE LEROY FOWLER

Sheet metal shop practice. Chicago American Technical Society 1951 251 p. illus. 22 cm. \$4.00. 2022

Contents (abridged): Sheet metal working tools and machinery Sheet metal materials and supplies. Using patterns and cutting metal. Punching, drilling, and riveting. Folding edges. Forming, crimping, bending, and grooving. Notching, clipping, and v-notching. Punching, bending, and riveting. Basic principles of pattern development. Patterning the development. Bend line development. Trigonometry. Welding. Index.

Note: A simply-written, well-illustrated book which is suitable for use as text in vocational courses and as manual for mechanics in need of specific information on how to do particular metal-working operations. Each chapter is complete in itself (or nearly so) and therefore can usually be used without reading the others. All of the basic sheet-metal-working tools and operations performed in small shops are described in the text and shown in the illustrations.

CHASE, HERBERT

Handbook on designing for quantity production. Second edition. New York McGraw Hill Book Company Inc., 1950 564 p. illus. 23 cm. \$7.50. 2023

Contents (abridged): Part I: Design of the castings. Design of cast castings. Design of permanent mold castings. Design of screw-machine products. Design of stampings. Design of impact extrusions. Design of the forged parts. Notes on and accomplishments in hot bending. Notes on the design of cold-bent parts. Design of wire forms. Design of material powder products. Design of plastic castings. Part II: Die-cast or sand-cast? Permanent mold and die castings compared. Which type of nonferrous casting? Die-cast or stamped? Die-cast or screw-machine products? Cold-bent or screw-machine products? Die castings and plastic castings compared. Moldable-iron castings vs wrought parts. Index.

Note: (2122) A manual of useful information for engineers who design machine parts and other metal and plastic products. The

advantages, disadvantages, and limitations of the various processes mentioned in the chapter titles are all discussed, and the designer is told how to design parts so as to take the fullest advantage of each process. There are six new chapters in this edition, and chapters carried over from the older edition have also been revised where revision was needed. Numerous additions have been made to the bibliography. Certain of the chapters have been authored or co-authored by specialists other than Mr. Chase.

CLAPP, WILLIAM HOWARD AND DONALD SHERMAN CLARK

Engineering materials and processes metals and plastics. Second edition. Scranton Pa. International Textbook Company 1949 526 p. illus. 24 cm. (International textbooks in mechanical engineering, Charles Fayette Taylor consulting editor) \$7.00 2024

Contents: Part I, Materials: Properties of engineering materials. The structure of metals and alloys. Cooling curves and equilibrium diagrams. Metallurgical properties, and uses of ferrous metals and alloys—the manufacture of iron and steel—control of properties—the alloy steels and cast iron. Metallurgical properties, and uses of non-ferrous metals and alloys. Plastics, rubber, and synthetic elastomers. Part II, Processes: The production of castings. Hot-chambering of metals. Cold-chambering of metals. Joining of metals. Machine shop production methods. Lathes, boring mills and screw machines. Milling and drilling operations. Planers, shapers, planers, broaching machines, and more. Gears, gear cutting and gear-cutting processes. Abrasive, grinding, and finishing processes. Index.

Note: (2411) A standard engineering college textbook. Its compact but clear descriptions of standard materials, machine tools, and manufacturing methods give it more value as a reference book. The changes made in preparing the second edition were not major but they include descriptions of a fair number of new processes and completely revision chapter on plastics and synthetic rubber. The authors are members of the faculty of the California Institute of Technology.

COLVIN, FRED HERBERT, AND FRANK A. STANLEY

Gear cutting practice methods of producing gears for commercial use. Third edition. New York McGraw Hill Book Company Inc., 1950 532 p. illus. 23 cm. \$6.75 2025

Contents (abridged): Introduction to gear cutting. Cutting spur gear with circular cutters. Bevels, internal and external gears. Cutting small pinions. Types of bevel gears. Bevel gears, and bevel cutters. Worms and worm gears. Involute and straight-toothed gears. Finishing gear teeth and hobs. Heat treatment of gears. Gear-inspection methods and equipment. Index.

Note: (2318) A well known book for practical mechanics. It is planned for beginners in gear cutting, but the discussion of practice are carried far enough to make the book of interest to many men with substantial experience in the field. All of the standard practices are covered and, in addition, there are good descriptions of the principal gear-cutting machines. In this edition the length of the book has been increased very substantially. New machinery is described and there are additional data on many topics such as circular-toothed hobs, hobbing spindles, new methods of cutting and finishing gears, and new standards.

COLVIN, FRED HERBERT, AND FRANK A. STANLEY

Grinding practice typical machines and methods used in a wide variety of work. Third edition. New York McGraw Hill Book Company Inc. 1950 419 p. illus. 24 cm. \$5.00. 2026

Contents: The grinding machine in industry Typical grinding machines Automatic and semi-automatic equipment. Cylindrical grinding in general External and internal grinding. The cutters grinder. Centerless-grinding operations. The cutters in precision grinding. Examples of precision grinding. Barless grinders and their work. The magnetic chuck. Carrier and tool grinding methods. Work grinding heavy shafts. Grinding considerations and other material. Grinding heavy shafts. Grinding and dressing wheels. Lapping and honing machines. Polishing and buffing. Index.

Notes. (1617) This standard text for vocational school courses provides general view of the machines and methods used in modern grinding practice. The more widely used machines are described and illustrated, and typical grinding operations are discussed in detail. Data regarding operating speeds, sizes, and types of wheels are tabulated throughout the book. The general scope and purpose of this edition remains the same as in the previous edition, but the chapters have been rearranged and the wartime supplement of the 1943 edition has been incorporated into the body of the text. Revisions and additions account for 70 additional pages.

FELKER, CHARLES AURAND

Machine-shop technology Milwaukee
Bruce Publishing Company 1952 491 p. illus.
23 cm. \$4.80 2027

Contents. Hand tool operations. Power saw. The drill press. Center drilling and straight turning on the lathe. Facing and other lathe operations. Turning and boring tapers. Cutting screw threads. The shaper. The planer. The milling machine. Milling machine indexing. Helical milling. Gears and gear cutting. Grinding machines. Metals used in the machine shop. Appendix. Index.

Notes. An introductory text for use in practical courses in vocational schools, general high schools, industrial training programs, etc. Except for the first chapter it is devoted to machine tools and basic operations on them. A considerable number of the 219 illustrations are photographs; the others are reproductions of line drawings. Both are well reproduced. The author is head of the Department of Vocational Education in the University of Toledo.

HINMAN CHAUNCEY WEED

Pressworking of metals a reference book
Illustrating and describing the uses of metal
working presses and many types of press tool
designs. Second edition. New York McGraw
Hill Book Company Inc. 1950 551 p. illus.
24 cm. \$9.00. 2028

Contents. Standard types of power presses. Pressworking commonly used materials. From scrap metal and forging equipment. Designing chucks, mandrels, and supports. Automatic stops and die accessories. Blanking and cutting dies. Two-up or tandem dies. Progressive dies. Blank and scrap strip developments. Piercing and shearing. Boring, burnishing, and reamers. Sectional dies and inserts. Bending, forming, and roll-forming. Dies for screwing work pieces. Forging, coining, and cold-chamber. Dies for drawing and re-drawing. Universal dies and sets of operations. Techniques and reference tables. Index.

Notes. (1941) A clearly written and practical guide to the art of pressworking ferrous and non-ferrous metals. The workability of various materials and the selections of machines or die design, but the book deals actually with the design, construction, use, and operation of presses and dies. This edition has been largely rewritten and includes information regarding press tools, accessories, and new operating practices which have been developed since 1941. Ferrous dies and machines are described in more detail, and chapters on piercing and shearing have been added. Again, numerous photographs and diagrams of equipment are included.

JONES FRANKLIN DAY

Die design and die-making practice. Third
edition. New York Industrial Press [1951]
1014 p. illus. 24 cm. \$7.00 2029

Contents (abridged). Dies for cutting blanks from hot stock. Laying out blanking dies and general die-making practice. Materials used in die-making. Punch and die details. Sectional punch and die construction. Piercing and punching dies. Sub-press or roll pressing dies. Bending and forming dies. Chances of drawing dies and general die-making information. Dies for drawing shallow cups or shells. Dies for drawing deep shells. Drawing dies for conical or tapering forms. Drawing dies for spherical and oval shapes. Drawing various and rectangular shapes. The use of rollers in construction with press tools. Dies for special operations. Heat-treatment of the steels. Die design data for powdered metal parts. Index.

Notes. (1944) A practical and fairly comprehensive manual for beginners in die-making and also for those who have had some experience in the craft. The third edition has been printed from the second (or plates) as the second edition. Nevertheless, considerable amount of new material has been added. Four new chapters, three at the end of the book and one at the end of the third

chapter deal with die-making materials, special problems on the design of stampings, heat treatment of die steels, and dies for powdered metal work. In addition, there are several insertions of additional pages in other chapters.

LYTLE, CHARLES WALTER, AND ARTHUR F GOULD

Manufacturing equipment and processes.
Third edition. Scranton International Text
book Co., 1951 759 p. illus. 24 cm. \$7.00.
2030

Contents (abridged). Equipment policy in manufacturing. Design, analysis, patterns. Casting in sand and heat metal. Permanent molds, die casting, plastics, powder metallurgy. Hot-chambering of metal. Cold-chambering of metal. Sintering, brazing, plastic welding. Fusion welding of metals. Hot-chambering of metal. Turning. Boring. Drilling. Planing, shaping, slotting, typesetting. Bore grinding, screw, die, and mill grinding. Gear cutting and finishing. Screw-thread cutting and finishing. Grinding of metals. Controlling quality. Selection of equipment. Index.

Notes. (1950) Readers and technical libraries have the previous editions of this book under the title *Factory equipment*, by J. W. Roe and C. W. Lytle. The scope of the book has not been changed. It is still essentially a descriptive treatment of the processes and the machines employed in the manufacture of metal articles, with the emphasis somewhat on the machine. Considerable attention is paid to modern machines developed for special jobs. A good part of the text of the present edition is new. Though primarily a college textbook, the book is also useful to readers not of school who want readable survey of present-day machine tools and processes or descriptions of particular types of tool.

MILNE, LORUS JOHNSON

Machine shop methods. New York Prentice-Hall Inc. 1950. 376 p. illus. 23 cm.
\$5.00 2031

Contents. Shop machinery. Drawings and specifications. Hand-work related to machining. The lathe. Turning work between centers. Work supported chiefly by the headstock. Outside machines. Inside machines. Threads and thread cutting. Drills and drill bits. The drill press. The shaper. The miller. The grinder. Lancing the workpiece. Summary. Other shop machines. Use of tools and fixtures. Gears and gear cutting. Cutting gears and teeth. Accuracy in machining. Assembling machined parts. Pressing and finished metal. Materials. Bibliography. Appendix tables. Index.

Notes. An introductory text suitable for use in introductory classes and also as a self-instruction book or reference reference for home or workshop. All of the common machine tools and the chief operations performed on them are discussed. Numerous special techniques such as lath or of particular interest to the home workshop are included in the production of crackle finishes, the cutting of circular holes in sheet metal, and the cutting of slots. Diagrams are included in addition to the expected material. A fair number of illustrations is included, and there is a bibliography of more advanced and specialized books for machinists.

RUBINOFF SAMUEL EUGENE

Forging and forming metals. Chicago
American Technical Society 1952 279 p.
illus. 22 cm. \$3.95 2032

Contents. Introduction. Metal quality. Hand forging. Power-forging. Hot forging. Impact die or drop forging. Typical examples. Other impact die forging. From forging. Machines or open forging. Forging methods. Clamping and finishing forging. Heat treatment of forging. Inspection and testing of forgings. Forging dies and tools. Product design for forging. Safety in forging operations. Blanking practice, tolerance impression die forging. Bibliography. Glossary of forging terms. Appendix of useful tables. Index.

Notes. A comprehensive but simple treatment of all aspects of modern forging techniques that are of concern to the practical worker. It is suitable for use in trade school classes and it will also serve as the basis of some machine design and engineers who desire an up-to-date and quickly read survey of current techniques. Metallurgical aspects such as would concern the metallurgist are not only of course covered. There is a summary of Mechanical Engineering. The author is Associate Professor of Mechanical Engineering and Manufacturing Processes at the Illinois Institute of Technology.

of sand mixtures. Elevated temperature tests on boundary sand mixtures. Chemical analysis of sand—no standard tests. Tentative method of testing core binders (tensile strength). Mechanical properties of core sand mixtures. Method for determining strength of core paste—tentative standard. No standard tests. Interpretation of room temperature sand tests. Comments on maintenance of testing equipment. Foundry molding sand mixtures. Conversion tables. Terms used in boundary sand work. Bibliography on sand testing and control. Subject Index.

Notes: (1873) A standard manual of seed testing methods, tests, and testing equipment. The previous edition appeared in 1844. The present edition is an extensive revision which includes both new and revised tests. The serial bibliography contains chronological arrangement of papers and reports which have appeared in the Transactions of the sponsoring society, bibliography of the seed resources of the states of the United States and Canada, and an international bibliography arranged by country of publication on seed and seed testing.

AMERICAN FOUNDRYMEN'S SOCIETY

Symposium on Interpretation and application of sand test data for the production of quality steel castings Sponsored jointly by the A. F. S. Sand and Steel Divisions Chicago American Foundrymen's Society 1951 73 p. illus. 28 cm. Paper \$5.25 2040

[illegible]

Re: A collection of original papers on several aspects of the current status of seed testing in American countries. It is pointed out that the techniques of testing seed and interpreting the test data have not yet reached the stage where seed tests can be correlated with seedling quality. However, some progress toward this goal has been achieved and these papers describe it.

CAMPBELL JAMES S JR

Casting and forming processes in manufacturing. New York: McGraw Hill Book Company Inc., 1950. 536 p. illus. 23 cm. \$6.50

Contents (abridged): Blasting materials and equipment. Blasting techniques. Making the large models. Solidification and stirring. Cores. Sand casting. Fracture experiment. Molding machines. Curing and annealing. Metals for casting. Blowing. Chromium surface plating. Mechanization. Inspection. Sand casting. Permanent mold casting. Waxing. Pressure investment casting. Permanent mold castings. Die casting. Plastics, molding and forming. Powder metallurgy. Molding. Forging. Sheet-metal works. Punch press work. Index.

Notes: A condensed survey of American jewelry processes and certain attractive processes such as forging. Particularly more than half of the space is devoted to the casting of metals and the finishing of cast-metal products. Rolling, forging, sheet metal work, etc. are given less space, but enough is said about each technique to convey the idea of it and its uses. The book is designed chiefly as general instruction for apprentices engineering students. A generous number of illustrations has been used, and the chapters conclude with short bibliographies. The book is intended as a companion to *Mechanics* used for engineers, by C. B. Haines (see index).

DOE EDWIN W

Foundry work. Prepared in cooperation with the Textbook Committee of the Educational Division American Foundrymen's Society New York John Wiley & Sons, Inc. 1951 109 p. illus (part col'd) 24 cm. \$1 76

Contents: The foundry industry. Fundamental foundry processes. Foundry tools and equipment. Patterns. Sand molding. Molded sand.

cores, mixing and pouring metals and alloys. Cleaning and bushing castings. Occupational advantages in the Irony Ginery of foundry work. M. G. Lawrence and Alvin L. Linder.

Note. A textbook especially prepared for use in high schools and vocational schools. It contains clear description of the common boundary processes and techniques. There are about 100 exercises. High proportion of these being reproductions of photographs of operations in boundaries. The other is member of the faculty of the Brooklyn Technical High School.

DOEHLER, H H

Die casting. New York McGraw Hill
Book Company Inc., 1951 502 p. illus. 24
cm. \$8.50. 2043

Contents. Die-casting machines. Die-casting dies. Theoretical and practical aspects of the casting. Design of the casting. Comparison of the casting with other production processes. Die-casting alloys. Finishing of the castings. Machining of the castings. Treating and plating of die castings. Inspection of the castings. Estimating the cost of the castings. Safety in the die-casting plant. Glossary of terms used in the casting trade.

offer. A comprehensive manual written by one of the outstanding authorities on the subject. In addition to full discussions of the main aspects covered in the chapter titles, there are discussions of such topics as topographic control of story composition, automatic recording of the parts, and inspection procedures for finished content. There are literature references and an adequate index of illustrations.

HANEL ALEXANDER V

Text in patternmaking. Milwaukee The
Bruce Publishing Company 1949 314 p. il-
lus. 24 cm. \$2.96 2044

Concrete (earthwork) Molding and pattern allowance. Ties.
Lumber. Patterns supplies and their use. Blackbody Factors. Insulation.
Paints. Masonry. Segmental and slating construction. Cast piers and
columns. Cast piers. Cast construction. The heavy job.
Messing block. Cylinder. Laid. Surface plate. April line. Base
bearing. Bracket bearing. Angle bracket. Bearing cap. Double bear-
ing. Tapered column. Quadrant. Screw gage. Glossary of pi-
ces. Appendix. Appendix. Index.

Only a clearly written, well-organized text on wood preservatives. It is designed for use in all your courses in vocational high schools. Also, it can be read for information by beginning workers in forestry. All of the fundamental facts and processes are covered, and the job sections give detailed directions for the construction of the materials for 40 typical cases.

HERB CHARLES OLIVER

Die-casting the die-casting process and its application in modern manufacture die-casting machines design of different types of dies, composition and properties of die-casting alloys and the die-casting of zinc, aluminum, brass, and other non-ferrous alloys. Second edition. New York The Industrial Press, 1952. 310 p. illus. 24 cm. \$4.50.

Contrasts. The die-casting process and its applications. Die-casting machines and their development. Alloys for die-casting. Die-casting dies and their operation. Multiple cavity dies for die-casting. Castings with auxiliary slides for exterior cores. Ejecting cones in sand casting and stationary dies. Adjustable dies for parts of different dimensions. Standards for designing die-casting machines. Die-casting defects. Die-casting with semi-automatic machines. Die-casting with automatic machines. Die-casting houses. Die-casting by the vacuum process. The future of die-casting. — *Die Casting*, 1964, 10, 1.

[illegible]

HULL, DANIEL R.

Casting of brass and bronze some practical aspects of brass and bronze casting in America, 1900 to 1950 Cleveland The American Society for Metals 1950 186 p. illus. 23 cm. \$3.50 2046

Contents: Things as they were. Making. Pouring. The furnace. Oxygen, hydrogen and desulfurization. The mold. The mold drying. Random observations. Conclusion. Index.

Note: An expert, very readable review of brass and bronze foundry practice. Although changes in the industry are sketched briefly in the first chapter, most of the text deals with current practices. The author is Assistant Technical Manager of the American Brass Company and his book reflects long experience with brass and bronze casting.

MAREK CLARENCE THOMAS

Fundamentals in the production and design of castings. New York John Wiley & Sons, Inc. 1950 383 p. illus. 20 cm. \$4.50 2047

Contents: Casting processes. Green sand molding. Foundry sands and sand control. Patterns and related equipment. Core and their application. Foundry production equipment. Production planning. Physical and metallurgical properties of cast metals. Properties and uses of various cast metals. Properties and uses of nonferrous cast metals. Making of cast metals. Cleaning and inspection. Design for economical molding. Design to eliminate defects. Bibliography. Appendix. Index.

Note: A general introductory survey of the metalcasting processes, written for engineering students and graduate engineers who need some knowledge of these processes but are not directly concerned with foundry practice or management. All the commercially used processes are described, including shell molding, the lost wax process, lost mold, lost sand of the space is given to casting in sand molds and to the products of this process. The book is well organized and suitably illustrated. Its purpose is to enable engineers to design cast parts as they can be produced economically.

SCHWARTZ, HARRY ADOLPH

Foundry science fundamentals underlying foundry practice. New York Pitman Publishing Corporation 1950. 286 p. illus. 24 cm. \$6.50 2048

Contents (abridged): Structure of solids and the phase rule. Structure of the solid state. Specific heat. Character of steel and latent heat. Friction energy and energy application. Evaporation. Electric furnace and heat losses in electric steel. Carbon and hydrogen combustion. Heat transfer in molten state. Kinetics of furnace charges. Measurement of high temperatures. Direction of reactions. Rate of reactions. Origin and control of carbon in ferrous alloys. Microstructures of iron-carbon alloys. Effect of alloying elements on microstructures of iron-carbon alloys. Fluid mechanics of casting. Casting and feeder. Technical control of processes. Supplementary reading. Notes. Index. Subject Index.

Note: Rather than text on foundry practice, this book is an exposition of fundamental chemical and physical phenomena and principles that affect metal-casting processes. It is based on a series of lectures on theoretical metallurgy and foundry physics given by the author at the Case Institute of Technology. Although the original lectures were addressed to graduate engineering students, the material has been carefully simplified in the book, and can now be studied at home by foundry engineers and supervisory personnel as well as by engineering students.

STEEL FOUNDERS' SOCIETY OF AMERICA

Steel castings handbook. 1950 edition. Prepared under the direction of the SFSA Handbook Committee. Charles W. Briggs, editor. Cleveland, Ohio Steel Founders' Society of America, 1950. 511 p. illus. 23 cm. \$4.00 2049

Contents: A brief history of the steel casting industry. Chemical and advantages of steel castings. Commercial applications and industrial

uses of steel castings. Steel casting design. The manufacture of steel castings. Heat treatment. Variables affecting the mechanical properties of steel castings. Mechanical properties of carbon cast steels. The properties of low alloy cast steels. Heat and corrosion resistant cast alloys. Austenitic stainless steel castings. Physical values pertaining to cast steel. Engineering properties of cast steel. Recommendations to purchasers of steel castings. Steel casting specifications. Ductilities of ferrous castings. Appendix: Chemical compositions of steels and castings. Index.

Note: A reference manual and practical treatise for foundry workers, engineers, and others whose work requires technical knowledge of steel castings. A factual text is supplemented by many excellent photographs of castings and equipment, and by tabulated data regarding the composition and properties of various steels. This edition has been revised to include the technological developments which have occurred since 1941. The chapters on low alloy cast steels and heat treatment, in particular, have been rewritten, and material has been added on pattern making and new types of alloys. The chapter bibliography has also been brought up to date.

WOOD RAWSON L., AND DAVIDLEE VON LUDWIG

Investment castings for engineers. New York Reinhold Publishing Corporation 1952 477 p. illus. 23 cm. \$10.00 2050

Contents: History and description of investment casting. The master pattern and pattern die. Making the metal die. Wax versus plastic patterns. Pattern necessary for disposable patterns. Gating, pouring, cleaning, venting wax and plastic patterns. Investment materials and techniques. The master shell mold and master pattern making and casting methods. Selection of low temperature process alloys for investment casting purposes. Selection of ferrous and refractory alloys. Foundry making investment castings. Foundry inspection operations. How to machine investment castings. Product design development by means of investment castings. Castings to replace fabricated parts. Design suggestions for investment castings. Investment castings for chemical and high temperature related applications. Some metallurgical observations of investment cast alloys. Some mechanical tests on stainless steel. Bibliography. Index.

Note: The special slant of this treatise is indicated by the title. In other words, the book is written not from the viewpoint of founders but of engineers who design products to be cast or are responsible for the finishing of them after casting. The various investment processes, including not only "the lost wax" process but those in which other materials are used for the disposable patterns, are fully described, and particular attention is given both to their advantages and their limitations. Supplementary topics such as the selection of alloys for products to be made by investment casting are adequately covered. The text is supplemented by a substantial number of tables of composition data. The book is based on a series of articles written by the authors and published in *Iron Age* and other journals from 1946 through 1951. Only a short bibliography is included.

WELDING

ALHOUSE, ANDREW DANIEL AND CARL H. TURNQUIST

Modern welding practice. With the collaboration of George B. Tabraham and Burl E. Ott. Second edition. Chicago Goodheart-Willcox Company Inc., 1951 498 p. illus. (part col d) 22 cm. \$5.00 2051

Contents: Oxygen-acetylene welding theory and practice. Oxygen-acetylene welding equipment and supplies. Electric welding theory and practice. Electric arc current arc welding practice, equipment, and supplies. Alternating current arc welding. Electric resistance welding practice, equipment and supplies. Spotting and tacking welds. Soldering and brazing. Non-fusion welding. Pipe and tube welding. Cast iron welding. Special forms metal welding. Cutting. Special forms of welding. Microstructures of metals. Properties and classification of metals. Heat treatment of metals. The welding shop. Modern welding, heating and soldering applications and equipment. Technical data. Index.

Note: This book is used both as a text in vocational schools and as an elementary reference book. All types of welding are covered in a simple, practical style and the discussions are supplemented by 349 figures and numerous tables of data. The coverage is not encyclopedic but is adequate for beginners. The first edition appeared in 1942. One entirely new chapter has been added in this edition, and there are other useful revisions.

AMERICAN WELDING SOCIETY WELDING HANDBOOK COMMITTEE

Welding handbook. Third edition. New York American Welding Society 1950 1651 p. illus. 24 cm. \$12 00 2052

Contents: (abridged) Fundamentals I welding: Standard welding terms and their definitions. Physics of welding. Fundamentals of welding metallurgy. Gas welding processes. Arc welding processes. Resistance welding processes. Miscellaneous welding processes. Forge welding. Thermal welding. Lubrication welding. Surfacing and metalizing. Brazing. Soft soldering. Cutting processes. Metals: Iron, wrought iron and carbon steels. Chromium steels and alloys. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Copper and copper alloys. Nickel and high nickel alloys. Lead and zinc. Cold steels. Ductile and cast considerations. Inspection and quality control. Applications. Builders. Bridges. Machinery construction. Pressure vessels and boilers. Railroads. Automotive products. Aircraft. Transmission pipe lines. AWS standards: Standard welding symbols. Standard methods for mechanical testing of welds. Author index. Subject index.

Note: A standard encyclopedia of information about welding. Pictures of equipment and techniques are included, as are bibliographies of pertinent literature. In this edition the work has been substantially revised with much added material. The type was reset, and the book is now printed two columns to the page. The subject index alone runs to 60 pages.

AUSTIN JOHN BENJAMIN

Electric arc welding. Chicago American Technical Society 1952 280 p illus 22 cm. \$3 90 2053

Contents: History and scope of welding. Arc welding machines. Electric arc-welding accessories. Fundamentals of arc welding. Lessons in electric arc welding. How to weld common steels and alloys. Hand facing. Pipe welding. Arc welding symbols. Machinery welding. Structural welding. Common methods of testing welds. Special metal arc processes. Index.

Note: A study-written, practical text for vocational school students and beginning welders. In addition to the descriptions of arc-welding equipment and general techniques, information is included on a number of specialized techniques such as butt joint welding in pipeline construction. The book is extensively illustrated. The author is a welding engineer on the staff of the Republic Structural Iron Works, Cleveland, Ohio.

CHURCHILL HARRY D AND JOHN B AUSTIN

Weld design New York Prentice-Hall, Inc. 1949 216 p illus. 22 cm. \$6.65 2054

Contents: Introduction. Construction materials of machine bases. Stress-analysis and design data. Designing arc-welded machine bases. Application of welded-design principles. Welding specifications. Welding procedures. Welding processes. Flame cutting and flame hardening. Forming of metals. Estimating welded machine-base costs. Appendix: Stress-design data. Bibliography. Index.

Note: Although this book is concerned with one subject only the fabrication of bases for machines by welding, it presents an exceptionally thorough treatment of this subject. Furthermore, many of the techniques described are applicable to the welding of other articles. The book is well illustrated, and the text is supplemented by an extensive bibliography. It was an award of The James F. Lincoln Arc Welding Foundation.

HEATING PIPING AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION

Standard manual on pipe welding. [Second edition] New York Heating, Piping and Air Conditioning Contractors National Association, 1951 506 p illus. 23 cm. \$7 50. 2055

Contents: Welding—a tool of the contractor. Description of welding processes. Welding equipment maintenance. Selection and training of operators. Scope of pipe welding. Materials and filler metals. Testing and inspection. Code welding—procedures—specifications. Temperatures and joints. Layout and fabrication details. Estimating pipe welding costs. Co-ordination of facilities. Fabricating shop organization. Field welding shop organization. Alloy steels—chrome moly—stabilized

Aluminum and aluminum alloys. Copper and copper alloys. Nickel and nickel alloys. Cast iron. Lead welding and burning. Hard facing materials. Welding terms. Welding symbols. Tables and formulae. Index.

Note: A standard work in which the fabrication of piping installations in factories, office buildings, etc., by the use of welding techniques is treated primarily from the viewpoint of construction of the basic piping systems. Techniques of fabrication in the shop and on the job are both described. Most of the space is given over to descriptions of materials and techniques, but other phases such as setting welded installations in connection with these put together with mechanical details, selection of welding operators, etc., are covered as well. As source of information on the welding of pipe the book is potentially useful to anyone concerned with the subject, whether he is contractor, architectural engineer or practical welder.

HENRY OTTO HAZELTON, AND G. E. CLAUSEN

Welding metallurgy, iron and steel revised by G. E. Linnert. Second edition. New York American Welding Society 1949 505 p. illus. 20 cm. \$2 50 2056

Contents: Metallurgy of welding. Types of steel and their structures. Welding methods and processes. Temperature changes in welding. The structure of metals. The mechanical properties of metals. Effects of alloying elements. Fluxes and slag. Simple welds in iron and steel. Shortcuts in welds. Finishing and post-weld treatment. Difficulties and defects. Welding plate-carbon and low-alloy steels. Welding stainless and heat-resisting steels. Welding cast irons. Metallurgical data. Questions and problems. Abbreviations and chemical symbols. Index.

Note: (1949) A practical discussion for welders of the structure, properties, and composition of steels and other ferrous alloys. The material in the previous edition has been reconsidered, rearranged, and amplified. A new chapter on welded joints has been included, and no section has been added. Other additions are the suggested readings given at the end of each chapter, 50 new figures throughout the text, and new review questions. In accordance with general usage the Fahrenheit temperature scale has been substituted for the Centigrade.

MORRIS, JOE LAWRENCE

Welding principles for engineers. New York Prentice-Hall Inc. 1951 511 p. illus. 22 cm. \$7.35 2057

Contents: Welding certification. A survey of the welding process characteristics and applications. Testing and inspection of welds. Welding of commercial metals. Brazing, soldering, brazing, aluminum. Surfacing. Metal spraying. Filler materials. Flame heat-treatment. Oxygen cutting. Stress and distortion. Design for welding. Factors affecting welding production economy. Index.

Note: The special viewpoint of this book is evident from the title and table of contents. Welding is treated as techniques of useful fabrication. All of the practical welding processes are described. Welding techniques are discussed in some detail but the discussion are devoted to design and production aspects rather than to welders. The book was written for use as text in engineering colleges, but it is suitable also for engineers in industry who desire an overall view of the subject. There are 13 tables and 24 figures.

PLUMLEY STUART

Oxyacetylene welding and cutting a course of instruction. Revised and rewritten by T. B. Jefferson. Fourth edition. New York McGraw Hill Book Company, Inc., 1949 356 p. illus. 29 cm. \$7.50 2058

Contents: The flame with many uses. Setting up oxyacetylene welding equipment. The welding gases, oxygen and acetylene. Welding torches and regulators. Acetylene generators. Working short end. Flame-cutting steel and cast iron. Welding and cutting small-diameter pipe. Pipe-boss welding. Welding heavy pipe steel. Brazing welding. Flame-welding cast iron. Brazing. Welding light metal. Hand facing, nickel, nickel, copper and brass alloys. Lead welding. Baffle and Miscellaneous welding in the job shop. Tank welding. Baffle and Brazing welding. Working steel. The business side of welding. Appendix. Index.

Note: A textbook of concise, easy-to-understand instructions in welding and cutting techniques and their application in the fields of manufacturing, construction, and repair. The present revision, by re-

use of its rearrangement of parts and additional material, has notably improved the book both as a text for beginning welders and reference manual for members of the industry. The discussion on pipe welding, cutting, and hard facing has been considerably enlarged, as also those on the newer techniques of silver brazing and the welding of alloy steels, aluminum, and magnesium. A new chapter has been added on the systematizing of shop operations and shop management. A glossary has been included, and the index reworked.

SLOTTMAN GEORGE V., AND EDWARD H. ROPER

Oxygen cutting. New York McGraw Hill Book Company, Inc., 1951 407 p. illus. 24 cm. \$6.50 2059

Contents: Historical review. Fundamentals of the oxygen cutting process. The preheating flame. The effects of oxygen purity. The effect of metal temperature on the cutting action. The effect of alloying elements on the cutting action. The effect of oxygen cutting on ferrous alloys. Flame facilities for the cutting process. Oxygen cutting equipment. The oxygen lance. Fundamentals of hand cutting. Fundamentals of machine cutting. Types of cutting machines. Trailing devices and templates. Electric tracing devices. Factors affecting the accuracy of machine cutting. Multiple and stack cutting. Heavy cutting. Flame machines. Flame scarfing. Cutting high alloy steels and nonferrous materials. Underwater cutting. Economics of cutting. The future of oxygen cutting. Index.

Note: This self-instruction book is intended for use, not as an instructional manual for the technician, but as a source of background information for engineers and research workers in the field of oxygen cutting. It then includes detailed discussions of the underlying theory and the factors which affect the flame-cutting operation together with descriptions of the techniques and equipment used in the various applications of the process. Both authors are associated with the Air Reduction Company Inc.

STANLEY, WALLACE ARTHUR

Resistance welding, designing tooling, and applications. New York McGraw Hill Book Company Inc., 1950 329 p. illus. 28 cm. \$8.00 2060

Contents: Background for resistance welding. Resistance welding explained. Resistance welding versus other joining methods. Resistance welding with standardized equipment. Portable welding equipment. Special purpose machines for resistance welding. Designing "welded products" versus welding "designed products". Design considerations in resistance welding. Design considerations for spot welding. Design considerations for projection welding. Design considerations for seam welding. Design considerations for flash butt welding. Evaluation of weld quality. Tooling, tooling, and material control for resistance-welding operations. Getting the most out of your resistance-welding equipment. Some technical help of with resistance welding. Index.

Note: A practical survey of an important technique in the manufacture of metal products. It is designed specifically for engineers concerned with manufacturing, but it is so clearly written and fully illustrated that it should be useful to anyone concerned with the types of welding from machine operators upward. Besides the discussion of general principles and standard techniques, information is given on some of small points, such as the effect of air pressure on machine speed. There are about 800 illustrations but no references to the related literature. The author is associated with the Progressive Welder Company of Detroit.

INDUSTRIAL INSPECTION

AMERICAN SOCIETY FOR TESTING MATERIALS

Papers on radiography Presented at the fifty-second annual meeting, American Society for Testing Materials, Atlantic City N J., June 27 1949 Philadelphia American Society for Testing Materials 1950 95 p. illus. 23 cm. (Special technical publication no 96) Paper \$1 75 2061

Contents: Introduction, by L. W. Ball. Recent progress in X-ray radiography, by J. C. Clark. 19 new X-ray techniques, by D. T. O'Connor and others. Radiography and autoradiography by photo-electrons, by D. T. O'Connor and W. R. Mackay. Mobilizing the Van de Graaf generator for pressure radiography, by E. A. Merrill. A universal exposure calculator for vacuum radiography and its application to contact radiography films and techniques, by M. A. Kahn and others. A discussion of radiographic sensitivity, by C. H. Hastings. A revised procedure for establishing radiographic standards, by L. W. Ball. An investigation of radiography in the range from 0.1 to 2.5 million volts, by W. W. Renschler and others.

Note: A collection of reports on new developments in the application of X-rays to the discovery of internal structure of engineering materials and to non-destructive testing techniques. Descriptions are given of the apparatus and methods used by the authors in their research work carried on at such points as the Naval Ordnance Laboratory and the Massachusetts Institute of Technology. Written for metallurgists, physicists, and manufacturers of engineering materials.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on the rôle of non-destructive testing in the economics of production. Presented at the fifty third annual meeting, American Society for Testing Materials, Atlantic City N J., June 27 1950 Philadelphia American Society for Testing Materials, 1951 157 p. illus. 23 cm. (Special technical publication no. 112) Paper \$2.50 2062

Contents: Introduction, by E. H. Lester. A basic guide for management's choice of non-destructive tests, by R. C. McMillan and S. A. Wash. Dismantling in cost and weight problems that can be revealed by non-destructive tests, by K. R. Van Horn. The rôle of non-destructive testing in the economics of castings, by J. W. Jeppesen. The economics and practical application of cobalt 60 in the radiographic inspection of steel weldments, by W. L. Schwane. The economics of strength steel inspection, by C. D. Mackay. Management's responsibility for leadership in nondestructive testing in the development of new engineering products and processes, by L. W. Ball.

Note: The essential purpose of this symposium was to acquaint production and management engineers with the value of non-destructive testing in improving the quality of manufactured products. Specific tests and their fields of application are described and discussed in each paper. However the bulk of the material is contained in the first paper where the basic principles and features of twelve test methods are summarized. Included are tabulations of 110 patented methods and bibliography of approximately 500 references.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on ultrasonic testing, presented at the fifty-second annual meeting of the American Society for Testing Materials, Atlantic City N J., June 28 1949 Philadelphia American Society for Testing Materials 1951 133 p. illus. 23 cm. (American Society for Testing Materials, Special technical publication no. 101) Paper \$2.00 2063

Contents: Introduction, by H. C. Anderson. Ultrasonic wave propagation in materials: guide to theoretical results, by L. G. Dodd. Inspection, processing, and manufacturing control of metals by ultrasonic methods, by C. H. Hastings and S. W. Carter. Basic principles of practical ultrasonic testing, by J. C. Smith. Ultrasonics in the heavy forging industry, by J. C. Hartley. The application of ultrasonics to the fabrication of aluminum, by J. V. Carroll. Ultrasonic testing in railroad work, by E. D. Hall. Ultrasonics in the electrical industry, by D. M. Kahan. Ultrasonic testing of bearings, by R. A. Fitch. Pulse techniques applied to dynamic testing, by J. R. Leslie. The measurement of stress in adhesive joints at ultrasonic frequencies, by A. D. H. Davis and others. General discussion.

Note: The techniques of ultrasonic testing employ ultra high frequency sound waves to detect internal or external flaws or measure losses in otherwise homogeneous masses. The papers and discussions in this technical publication present: summary of the history theoretical aspects, basic principles of practical testing, and practical

applications for the ultrasonic testing of materials. Two of the papers were presented at the meeting, and two at the 1950 annual A.S.T.M. meeting under the sponsorship of Committee E-7 on Non-Destructive Testing. The paper by Hladky and Carter is more cautious than the rest and contains bibliography of 143 references, each reference being classified as to its general subject content.

CLAUSER, H. R.

Practical radiography for industry New York Reinhold Publishing Corporation 1952 301 p. illus. 24 cm \$7.50 2064

Contents: Introduction. Matter, characteristics and properties of X-rays. The generation of X-rays and X-ray equipment. Procedures and radiograph interpretation. Exposure factors and technique. Sensitivity and radiograph quality. Film and film processing, screens and filters. Gamma ray radiography. Radiography of steel. Radiography of castings. Fluorography. Thick stage radiography. Other techniques and applications of radiography. Protection and safety. General index.

Note: The use of X-rays and gamma rays in the inspection of manufactured articles is presented in this book for metallurgists, inspectors, and other technical personnel directly concerned with radiographic inspection. The two background chapters are short and most of the space is given to descriptions of techniques and equipment. Technical terminology such as "person engaged in radiographic inspection would have to be familiar with is used freely but otherwise the presentation is simple and practical. The discussions are generously supplemented by graphs and pictures. Fairly extensive lists of references accompany the chapters.

KENNEDY CLIFFORD W

Inspection and gaging a training manual and reference work. New York Industrial Press, 1951 502 p. illus. 24 cm. \$7.50. 2065

Contents: The need and function of inspection. How specifications and the inspection. Tolerances and allowances. How standards aid the inspector. Basic principles and techniques of measurement. First gear. Surface plate methods and equipment. Mechanical indicating equipment. Electrical and air indicating equipment. Optical measuring and inspection equipment. Gaging and inspection of screw threads. Special measuring and inspection problems. Gage checking and calibration. 100 per cent inspection. Quality control and sampling. Process inspection. Illustrates her making good job better faster.

Note: A clearly written introduction to the inspection procedures and instruments used in present-day precision manufacturing. For an introductory work it is unusually comprehensive. For example, the reader is told not only how to use gages but how to check their accuracy. Numerous subjects such as quality control are only outlined. The book is well illustrated. It can be recommended to anyone from vocational school student to factory executive. He is making his first acquaintance with inspection. It is well suited to home study.

MICHELON, LENO CENO

Industrial inspection methods. Revised edition. New York Harper & Brothers, 1950. 566 p. illus. 24 cm. \$6.00 2066

Contents (abridged): Section I, Basic concepts in industrial inspection. Section II, Dimensional control: Dimensional measurement. Precision measurement: micrometers and verniers. Flat, flat, and map gages. Precision gage blocks. Comparison measurement. Dial indicators and indicator gages. Precision angle measurement. Screw threads and thread gages. Comparators and automatic gages. Optical instruments. Surface plates and workroom specialties. Statistical methods of quality control. Section III, Testing for physical and mechanical properties: Mechanical properties and destructive testing. Hardness testing. Industrial radiography. Section IV, Special inspection methods. Section V, Inspection organization and personnel. Section VI, Appendix. Bibliography. Manufacturers' catalogues and technical bulletins. Tables. Index.

Note: (1443) A practical introduction to modern inspection instruments and methods. The first edition proved to be very useful in training new recruits in our plants. This edition is largely in content. The work now includes good accounts of all the latest methods commonly used in factory inspection, of the chief testing methods, and concise descriptions of quality control from the inspector's viewpoint. It is organized as textbook and undoubtedly his chief use will be in conjunction with repeated courses in technical facilities and other schools. However, it is suitable to the beginning worker and others he tries to instruct themselves.

THOMPSON, JAMES EDGAR

Inspection, organization, and methods. New York McGraw Hill Book Company Inc. 1950 369 p. illus. 24 cm. (Industrial organization and management series, L. C. Morrow consulting editor) \$5.50 2067

Contents: Objective and plan. Operation. Organization. Personnel. Standards. Records. Equipment. Measuring instruments. Gages. Test equipment. Recording. Fabrication and assembly. Scribes. Sighting. Tools and tooling. Experimental and laboratory. Appendix: Typical inspection job requirements. Typical inspection specifications. Index.

Note: A practical survey of the organization, procedures, and human relations aspects of inspection systems in factories. It is an organized practicable methods of controlling and receiving the results of inspection so as to maintain the quality of the product and to maintain harmonious relations between the inspection department and other factory departments. The book holds for the book, the personnel survey on the part of the author of the organization of inspection is about 20 American industrial companies. The book is written from the management viewpoint and the descriptions of gages and other instruments used in inspection are obtained from management and supervisory personnel.

ELECTRICAL ENGINEERING

GENERAL

BISHOP CALVIN C.

Electrical drafting and design. Third edition. New York. McGraw Hill Book Company Inc., 1952 267 p illus. 24 cm. \$4.50
2068

Contents: General instructions for mechanical and electrical drafting. Circuit diagrams. Switchboard for direct-current generators. Switchboard for 2000-volt service. Outdoor substation. Resistance wiring. Laying out wiring. Illumination. Industrial plant. Appendix. Index.

Note: (1703) An established text and reference manual on the making of drawings of circuit diagrams and wiring installations. It is addressed chiefly to student draftsmen employed at vocational schools, but it is suitable also as reference or textbook for working draftsmen in need of particular information on electrical drawings. The 133-page appendix contains a number of tables of reference data useful to electrical draftsmen. The second edition was published in 1911. For this edition the work was very substantially revised and enlarged.

CORCORAN, GEORGE FRANCIS

Basic electrical engineering for students of electrical engineering. New York John Wiley & Sons, Inc., 1949 449 p illus. 23 cm. \$5.50
2069

Contents: Classification of physical quantities. Velocity of electrical charge. Voltage, current, and power. Electrical resistance and reactivity. Joule's law—heating effect. D-c circuit analysis (elemental circuit elements). The electric field. The magnetic field. Magnetic forces. Magnetostatic potential. Ferromagnetic circuits. Inductance. Capacitance. Boundary electromotive forces (Faraday's laws of electrolysis). Non-linear circuit elements. Appendixes. Index.

Note: (1707) The fundamental concepts and some of the basic techniques of present-day electrical engineering are explained in this introductory textbook. As indicated in the title, it is designed for students who plan to pursue the subject beyond an introductory course. The emphasis is on basic concepts and techniques such as the vector properties of electric field intensity and practically no space is given to descriptive material. Extensive USE units are used throughout. A small amount of material has been omitted over from *Electrical engineering fundamentals*, by the author and E. R. Kirtz (New York: Wiley 1941) but this is essentially new work, although intended for the same class of reader.

DAWES CHESTER LAURENS

A course in electrical engineering. Volume I. Direct currents. Fourth edition. New York McGraw Hill Book Company Inc., 1952 736 p illus. 24 cm. (Electrical engineering texts, Harry E. Clifford, consulting editor) \$7.00.
2070

Contents: Resistance. Ohm's law and the electric circuit. Battery characteristics. Series-parallel circuits. Primary and secondary batteries. Electrical instruments and electrical measurements. Magnetism and permanent magnets. Electrostatics. The magnetic circuit. Self- and mutual inductance. Electrodynamics. Capacitance. The generator. Generator characteristics. The motor. Losses; efficiency; opera-

tion. Transmission and distribution of power. Appendixes. Questions and problems. Index.

Note: (1710) A successful introductory text. It is designed particularly for each person in trade school students and electricians who do not plan to become professional electrical engineers but who need, nevertheless, a broad survey. Basic matters such as the properties of magnetic fields are not omitted but are treated in a simple manner. Although calculus is used in some parts, most of the text can be comprehended with knowledge of mathematics no higher than elementary algebra. Extensive and useful problems are found in this edition. There is more emphasis on fundamental aspects, and descriptions of new devices such as the Edison cell.

ERICKSON, WILLIAM H., AND NELSON H. BRYANT

Electrical engineering: theory and practice. New York John Wiley & Sons Inc., 1952 523 p. illus. 24 cm. \$6.00.
2071

Contents (abridged): Resistance. Electric circuit laws and d-c circuits. Magnetism and magnetic circuits. Electromagnetism. Induction. Inductance and capacitance. Alternating currents. Single-phase a-c circuits. Polyphase a-c circuits. Electrical instruments and measurements. The d-c machine. D-c motor control. Transformers. The three-phase induction motor. Three-phase synchronous machines. Single-phase motors. Introduction to electronics. Gas discharge tubes. Single-phase rectifiers. Thyristors. Power rectifiers. Motors. Communications in communications. Electronic control. Appendixes. Index.

Note: An introductory textbook designed for students entering in other fields of engineering than electrical. A considerable range of basic machines and circuits is covered with the emphasis on basic principles. Some mathematics appears in certain parts of the exposition but, generally speaking, the treatment is essentially descriptive, as in the authors' *Electricity & Magnetism*. The authors are members of the faculty of Cornell University.

FICH SYLVAN

Transient analysis in electrical engineering. New York Prentice-Hall Inc., 1951 306 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W. L. Everitt, editor) \$7.65
2072

Contents: General theory. Chemical solution of linear differential equations. Chemical solution of single-entry transforms. Chemical analysis of double-entry transforms. Systems defined by second-order equations. The Laplace transformation. Applications of the Laplace transformation. Solution of higher-degree algebraic equations. Circuits involving higher-order systems. Approximation and transformation of complex and asymptotic functions. Elements of convolution theory. Applications of contour integration. Systems having distributed parameters. Electrical analysis of engineering systems. Appendix: Table of Laplace transforms. Specific functions. Index.

Note: This textbook for electrical engineering students extends standard analysis to include modern operational methods and at the same time presents chemical theory. No previous knowledge of differential equations is needed. The chapters include exercises, illustrative examples with complete solutions, and over 300 problems, many of them with answers.

HARRIS FOREST KLAIRE

Electrical measurements. New York John Wiley & Sons, Inc., 1952 784 p. illus. 24 cm. \$8.00.
2073

Contents: The art of measurement. Electrical units. Direct-current galvanometers. Indicating instruments. Direct-current meters and volt meters. Potentiometers. Resistors and resistance measurements. Ballistic galvanometers. Magnets and magnetic testing. Alternating-current meters and voltmeters. The measurement of power. Energy measurements. Instrument transformers. V-to-f and frequency measurements. Alternating-current meters. Index.

Note: This book is limited to direct-current and low-frequency measurements, but within this area it provides very substantial treatment for laboratory workers and advanced students of physics. The operating principles and circuits of the chief instruments are described, and the limitations of each instrument are covered specifically. The main emphasis is on the use of available instruments so as to obtain results of the accuracy desired for the measurement in hand. The author is physicist on the staff of the National Bureau of Standards and faculty member of George Washington University.

KNOWLTON, ARCHER EBEN, editor in-chief

Standard handbook for electrical engineers prepared by a staff of specialists R. M. Shoop assistant editor Eighth edition New York McGraw Hill Book Company Inc. 1949 2311 p. illus. 23 cm. \$17.00. 2074

Contents: Units and conversion factors, by A. Z. Kossow and J. H. Puck. Electric and magnetic circuits, by H. B. Dwight and D. G. Hark. Magnetostatics, by G. Thompson and others. Properties of materials, by L. F. Bieganski and others. Circuit elements, by C. E. Underhill and others. Transformers, regulators, and reactors, by V. M. Monticelli and W. M. Dunn. Alternating-current generators and motors, by S. H. Martens and others. Direct-current generators and motors, by C. Lynn. Rectifiers and converters, by G. K. Merrill and C. Lynn. Prime movers, by G. A. Gaffney and others. Power economics, by J. G. Turner. Power system electrical equipment, by C. M. Galk and others. Power transmission, by W. W. Woodruff and others. Power distribution, by H. B. Gier. Control by H. G. T. Arnold. Wiring design—commercial and industrial buildings, by E. A. Reed, revised by W. T. Smart. Communications, by F. S. Miller and others. Industrial and commercial power, by L. W. Hirschman and others. Electric heating and welding, by K. R. Blau. Electricity in transportation, by J. Waldington and others. Electrostatics and electrostatics, by P. A. Lovell and others. H. B. Bauer. Batteries, by L. W. Woodruff and W. M. Schlicher. Wire theory and telegraphy, by R. L. Everts, revised by J. T. McLaughlin. Electronics and electron tubes, by D. G. Fink. Radio tubes and other communications, by D. G. Fink and others. Codes and standard practices, by W. R. Smith and others. Electrophysics, by K. R. McEachern and others. Index.

Note: (3111) The practical value of this reference book has been maintained since its first edition in 1907 by the publication of new editions at frequent intervals. Its purpose is to bring together in concise accessible form the sum of technical data in the electrical engineering field, including the most frequently used fundamental theory systems of measurements, and formulas. In addition to the changes necessitated by the development of new standards and specifications, other changes in this edition include: description of new magnetic and insulating materials; new articles on rotary regulators, induction heating, and radio; and revision of the sections on generators, transformers, conductors, and battery wiring. The bibliography given in each section have been brought up to date.

KUEHN MARTIN H.

Mathematics for electricians. Third edition. New York McGraw Hill Book Company Inc. 1949 372 p. illus. 21 cm. \$4.50. 2075

Contents: (abridged) Solution of simple equations. Solution of series circuits. Functions. Radical equations. Multiplication and division of polynomials. Factoring. Solution of quadratic equations. The slide rule. Groups. Parallel circuits. Generator and motor problems. Solution of linear and simultaneous equations. Kirchhoff's alternating-current laws. Vector. Complex quantities. Three-phase circuits. Appendix. Answers to problems. Index.

Note: (3122) An elementary text is applied mathematics for use either in vocational school courses or for home study purposes. Emphasis is on the solution of electrical problems by means of arithmetic, but applications of basic electrical principles are also included. As in the previous editions, numerous illustrative exercises and review problems constitute an important feature of the text. The text chapters on this edition include new chapters on basic arithmetic operations, trigonometry, and alternating-currents, and revision of the chapter on power.

ADON, JOHN M., AND BERT J. GELMINE

Industrial electricity the fundamentals of electricity machines electronics, illumination, and controlling equipment. Second edition. New York D Van Nostrand Company Inc., 1951 710 p. illus. 24 cm. \$6.50. 2076

Contents: Electrical algebra. Fundamentals of electricity. Work. Magnetism. Armature. Induct. Conversion. Motors. Commutator. Geometry and trigonometry. Alternating current. A-c circuits. Transformers. Polyphase systems. Alternators. Alternating-current meters. Motor winding. Multiphase induction motors. A-c converters. Electrical instruments. Electron tubes. Wiring systems. Domestic. Electrical drawing. Index.

Note: (3123) A practical introductory text designed for use in vocational and industrial schools. It is especially suited for students who are preparing to become activities in industrial plants. Although some space is devoted to fundamental electrical theory, the main emphasis is on typical methods of application of electricity and electronics to present-day industrial machines, controls, and other electrical devices such as meters. It is simply and clearly written. The chapters are logically developed and well illustrated with numerous original diagrams and drawings. Only simple arithmetic is used in the exposition and no previous knowledge in electrical science or mathematics has been assumed. The authors are instructors in the Training Department of the Ford Motor Company. The book was developed. The first edition, published in 1939. In the present edition the book is about 100 pages longer and contains considerable amount of revised and newly added material, particularly in the chapters on electron tubes, wiring systems, and illumination.

PENDER HAROLD AND WILLIAM A. DEL MAR, editors

Electrical engineers' handbook Electric power Fourth edition. New York John Wiley & Sons Inc. 1949 [1700 p.] illus. 23 cm. \$8.50. 2077

Contents: (abridged) Mathematics, units, and symbols. Electric circuits and electric lines. Measurements and measuring apparatus. Batteries. Direct-current machines and rotary energy conversion. Alternating-current generators and motors. Transformers. Power meters and inverters. Breakers and control equipment. Power transmission and distribution. Lighting and heating. Transportation. Electrochemical and electrothermal processes. Rural electrification distribution systems. Index.

PENDER HAROLD, AND KNOX McILWAIN, editors

Electrical engineers' handbook Electric communication and electronics. Fourth edition. New York John Wiley & Sons, Inc., 1950. [1618 p.] illus. 23 cm. \$8.50. 2078

Contents: (abridged) Mathematics, units, and symbols. Radiating. Inductors, and capacitors. Electron tubes. Electric circuits, lines, and fields. Fund. circuit elements. Vacuum tube circuit elements. Frequency modulation. Pulse techniques. Transmitters. Circuits. Electrical measurements. Acoustics. Electrochemical-acoustic. Electronic-electronic devices. Sound reproduction systems. Telephony. Telegraphy. Facsimile transmission and reception. Television. Electronic control equipment. Medical applications of electricity. Index.

Note: (3124) A standard handbook of electrical engineering. Each title given in the above tables of contents are "section" titles. Each of the sections contains several chapters in which fundamental and current practices pertaining to a specific topic such as X-ray tubes are concisely presented. The work has been widely revised in its fourth edition. Numerous topics such as electrolysis, pulsed modulation, pulse technique, and electro-optical devices are other newly added or the coverage of them has been completely revised. All of the bibliographies have been revised and in some sections bibliography has been inserted where none was before. The volumes have separate indexes and may be used independently.

REED MYRIL BAIRD, AND GEORGIA B. REED
Mathematical methods in electrical engineering. New York Harper & Brothers, 1951.
338 p. 24 cm. \$5.00. 2079

Contents: Imaginary numbers and hyperbolic functions. Linear algebraic equations—determinants. Matrix algebra. Zeros of polynomials—Graf's method. Partial and continued fractions. Vector analysis. The Fourier series. Linear differential equations with constant coefficients. Transients in one-mesh electrical networks. Transients in multimesh networks. Power functions. Partial differential equations. Analytic functions of complex variables. Index.

Note: A textbook in which the authors have made special effort to present in compact form the mathematical knowledge essential to professional work in present-day electrical engineering. Mathematical concepts are included so far as they are needed in such work. On the other hand, such methods as matrix algebra are discussed at some length. The exposition includes numerous worked examples.

SCHILLING, EUGENE WASHBURN

Theory and application of electrical engineering. Scranton Pa. International Text book Company 1951 402 p. illus. 23 cm. \$6.50. 2080

Contents: Alternating-current Electricity. Resistance. Electric circuits. Energy and power. Magnetism and magnetic circuits. Induced electromotive force. Direct-current instruments and meters. Capacitance. The direct-current motor. Alternating currents. Alternating-current instruments and meters. Polyphase alternating currents. Transformers. Polyphase induction motors. Single-phase motors. Motor applications. Alternating-current generators. Synchronous motors and parallel operation of alternators. Electronics and electronic equipment. Electronics. The D-C generator. Rectifier bridges. Thermistors. Transistors and diodes. Appendix. Index.

Note: An introduction to the fundamentals of electrical engineering for use in all types of college engineering courses. The coverage is not inclusive and has limited time in typical of books that were written specifically for electrical engineering students. Although the basic theories of electricity are outlined, background knowledge of that subject is assumed together with proceeding to advanced algebra. Review problems conclude each chapter. The author is Dean of Engineering at Marquette State College.

STOUT MILVILLE BIGHAM

Basic electrical measurements. New York Prentice-Hall, Inc., 1950 504 p. illus. 22 cm. \$7.75 2081

Contents: Development of the electrical units. Experimental procedures, notes. Add to computer. Measurement of resistance. Galvanometers, shunts. Standard cells. Potentiometers. Applications of potentiometers. Alternating-current bridges: potentiometer; loss of coils. Additional measuring circuits. Measurement of wattmeter circuits. Standardized standard. Characteristics of bridge components. Bridge accuracy. Instrument transformers. Magnetic measurements. Electrical indicating instruments. Appendix: Reliability of Wheatstone bridge. Wye-delta transformation. Summary of d-c bridge circuits. Index.

Note: A fairly inclusive introduction to the basic electrical measurements and to standard measuring instruments is provided in this textbook. Although such descriptive material has necessarily been included, the emphasis is on fundamental matters, such as selection of appropriate methods, achievement of the desired degree of accuracy in observations and computations, and the principles of measuring instruments. The chapter on indicating instruments covers such devices as voltmeters, ammeters, wattmeters, varimeters, power-factor meters and oscilloscope. The primary purpose of the book is to train college students who are entering in physics or electrical engineering in the fundamentals of electrical measurements by electricians, graduate engineers, and other technical workers who need occasional reference on methods or instruments and it useful for reference.

TIMBLE, WILLIAM HENRY AND OTHERS

Principles of electrical engineering. By William H. Timble, Vannevar Bush, assisted by George B. Hoadley. Fourth edition. New York John Wiley & Sons, Inc., 1951 626 p. illus. 23 cm. \$7.00 2082

Contents: General fundamental considerations. Kirchhoff's laws. Electric power and energy. Representation of electric networks. Conductors and insulators. Conduction in solids and liquids. Transients in electric circuits. Alternating-current circuits. The magnetic circuit. Interactions between electric circuits and magnetic fields. The magnetic

properties of iron and steel. Steady magnetic fields. Steady electric fields. Electronics. Electromagnetic waves. Appendix. Index.

Note: (1951) An introductory text, widely used in first-year college engineering courses. The treatment stresses basic principles and requires background knowledge of calculus and physics. Although retaining the general scope and arrangement of the previous editions, this revision has been extensively rewritten to reflect the fundamental theories to recent practical developments in the field. The chapters on conductors and dielectrics and transients, in particular, have been expanded, and chapter on a-c circuits has been added. The changes and the inclusion of new material on transistors, dry-circuit, acceleration of electrons, electron guns, etc., account for almost 150 additional pages.

VINAL, GEORGE WOOD

Primary batteries. New York John Wiley & Sons, Inc., 1950. 336 p. illus. 21 cm. \$5.00. 2083

Contents: Historical introduction. Elementary theory of electric cells. Dry cells—materials and production. Operating characteristics of dry cells. Effect of low temperatures on dry cells, and low-temperature types. Standard cells, standards of electromotive force. Alkaline and other batteries. Copper and copper oxide cells. Silver oxide and chloride batteries. Lead cells having suitable reaction products. Mercury cells and vanadium dry cells. Fuel-electrolyte cells. Index.

Note: A thorough treatise on a type which is almost devoid of book literature. Most of the discussion has to do with the theoretical and electrical principles and the operating characteristics of primary batteries. Although descriptions and diagrams of commercial cells are included, the book is less suitable for the occasional user of dry batteries than it is for engineers who need to understand primary batteries in connection with the design of specifications of electrical apparatus. The treatment of the subject is cited as excellent.

WESSON L. G.

Tables of electric dipole moments, compiled by L. G. Wesson. Cambridge, Massachusetts The Technology Press, 1949 90 p. 24 cm. \$2.50 2084

Note: A tabulation of more than 2,500 compounds have molecules are unsymmetrical and for which the dipole moment has been calculated. The inorganic compounds are listed alphabetically by the symbols for elements, and each entry includes the solvent used, the temperature at which the measurements were made, the dipole moment value, and the reference reference. The values, which are important in determining the dielectric properties of gases, liquids, and solids, were compiled by the Laboratory for Research in Chemistry at Massachusetts Institute of Technology.

CURRENTS FIELDS AND CIRCUITS

ATTWOOD STEPHEN STANLEY

Electric and magnetic fields. Third edition. New York John Wiley & Sons, Inc., 1949 475 p. illus. 24 cm. \$6.00 2085

Contents: Part I. The electric field: The electrostatic field. Electric fields of simple geometries. Electric polarization and induction. Electric current. Solution by method of images. Space charge—Laplace and Poisson equations. Mapping electrical fields. Energy and force in electromagnetism. Part II. The magnetic field: The magnetostatic field. Magnetic fields of simple geometries. Magnetic properties of materials. Energy and force in an induction. Part III. The electromagnetic field: Electromagnetism. Permanent magnets. Imaging and mapping magnetic fields. Part IV. Combined electric and magnetic fields: Interactions of electric and magnetic fields. Appendix. Index.

Note: (1949) An introduction to the principles and theories of electricity and magnetism for students in advanced electrical engineering courses. The book is intended to aid the student in applying his knowledge of mathematics, mechanics, and physics to the calculation and explanation of fundamental electrical concepts. The revision made in this edition includes correction of the chapter on the origin of magnetic effect and the addition of magnetization curves for various materials, and discussion of the para and ferro-magnetism. As in the previous editions, emphasis is placed on the study of fields and field mapping methods rather than circuits. Each chapter concludes with review problems.

KEISTER, WILLIAM AND OTHERS

The design of switching circuits. By William Keister Alistair E. Ritchie and Seth H. Washburn. New York: D. Van Nostrand Company Inc., 1951. 556 p. 24 cm. (Bell Telephone Laboratories series) \$8.00. 2092

Contents: Fundamental circuit concepts. Switching apparatus. Relay circuit control paths. Relay contact network configurations. Switching algebra, and manipulation of relay contact networks. Design of combinatorial relay circuits. Truth charts, sequence diagrams, simplified schematics, and graphic descriptions of relay circuits. Design of sequential relay circuits. Elementary switch control circuits. Elementary electronic switching circuits. Circuits for counting. Codes and translating circuits. Circuits for selecting. Circuits for connecting. Circuits for locking. Circuits for holding and latching. Circuits for timing. Circuits for pulse generation. Circuits for checking. Circuits for registration. Circuits for calculating. General principles of multifunctional circuit design. Planning multifunctional circuits. Detailed design of multifunctional circuit. Index.

Note: Switching circuits constitute a highly developed area in telephone engineering, and the subject is becoming important in such other fields as the design of electronic computers. This book, written by members of the staff of the Bell Telephone Laboratories, Inc., is based upon telephone experience, but is general and somewhat theoretical treatment placed for use outside the telephone field. Though organized as textbook and designed for upper-level engineering students as well as for practicing engineers, not much mathematics is employed. The greater part of the text can be understood by anyone with moderate knowledge of electrical circuits and terminology.

KIMBARK, EDWARD WILSON

Electrical transmission of power and signals. New York: John Wiley & Sons, Inc., 1949. 461 p. illus. 24 cm. \$6.50. 2093

Contents: Introduction. Parameters of simple two-conductor lines. Parameters of multiconductor lines. Parameters of screened and subterranean conductors. Parameters of ground return lines. Steady-state phenomena on transmission lines. Lossy lines. Transient phenomena on transmission lines. Transmission-line charts. Electron power transmission. Impedance matching. Telephone and telegraph transmission. Radio-frequency transmission lines. Filter side effect. Wave guides. Appendix: Characteristics of conductors for open-wire power transmission. Index. Characteristics of transmission lines for power and signals. Index.

Note: An engineering college textbook designed for courses offered to students who have had an introductory to circuits with lumped parameters. It is an introduction to circuits with distributed parameters. The theory of this type of circuit has application in both power transmission and communication engineering. The chapters are supplemented by fairly long lists of references. The author is Professor of Electrical Engineering at Northwestern University.

KRAYBILL, EDWARD KREADY

Electric circuits for engineers. New York: The Macmillan Company, 1951. 212 p. illus. 25 cm. \$3.85. 2094

Contents: Part I, Basic considerations. General background. Part II, Circuits. Electrostatics. Force. Part III, Operations. Resistance. Inductance. Capacitance. Part IV, Effects. Current flow through R, L, C. Effective values, vector representations. The algebra of complex numbers. Part V, Application of (select-current/approximation) to electric circuits. Series circuits. Energy and power. Parallel circuits. Networks. Polyphase circuits. Appendix. Index.

Note: A very compact presentation of the fundamentals of steady-state electric circuit theory is given in this book, which is intended chiefly for engineers specializing in fields other than electrical engineering. Except for the last two chapters, there is little descriptive material. Instead, such concepts as networks are carefully defined, then the reader is shown how to analyze typical examples and how to make the necessary mathematical computations involved in the analysis. Analogies with other physical systems, for example, inductors, capacitors and mechanical systems, are used frequently in the exposition.

LEPAGE, WILBUR R.

Analysis of alternating-current circuits. New York: McGraw-Hill Book Company

Inc., 1952. 444 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, F. E. Terman, consulting editor) \$6.50. 2095

Contents: Alternating-current systems. Introductory concepts. Motoring and effective value. Symbolic treatment of alternates. Basic trigonometric identities. Sinusoidal waveforms. Power. Applications of complex quantities. Network terminology and notation. Analysis of networks. Magnetic coupling. Polyphase systems. Variable-response networks. Nonreciprocal periodic waves. Fourier series. Appendix: Calculation of circuit parameters. D-c network analysis. Some trigonometric identities. Index.

Note: An introductory textbook for students of electrical engineering who have completed college courses in calculus, basic electrical engineering, and 4-circuit analysis. It covers the analysis of the steady state in lumped linear networks. Carefully worked distributions, rather than discussions, and summary at the end of each chapter are features designed to aid comprehension on the part of the reader.

LEPAGE, WILBUR R., AND SAMUEL SERLY

General network analysis. New York: McGraw-Hill Book Company Inc., 1952. 516 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, Frederick E. Terman consulting editor) \$8.00. 2096

Contents: Complex quantities. Generalized network analysis. Network theorems. Magnetic coupling. Four-terminal networks. General properties of lumped networks. Inductive networks. Polyphase systems and symmetrical components. Circuits with distributed properties. Impedance and admittance charts. Fourier series in circuit analysis. Transients in linear systems. The Fourier integral. Operational calculus. References. Appendixes. Index.

Note: A textbook designed for use in engineering colleges. It is introductory to the subject and so written that it is suitable for both students of communication engineering and power engineering. The authors are members of the Department of Electrical Engineering in Syracuse University.

RYDER, JOHN DOUGLAS

Networks lines and fields. New York: Prentice-Hall, Inc., 1949. 462 p. illus. 22 cm. (Prentice-Hall electrical engineering series, W. L. Everitt, editor) \$7.65. 2097

Contents: Network transmission lines and theorems. Resonance. Impedance transformation and coupled circuits. Filters. The general transmission line. The high-frequency line. Equations of the electromagnetic field—radiation. Transmission and reflection of plane waves at boundaries. Guided waves between parallel planes. Wave guides. Appendixes. Index.

Note: An engineering college textbook written by the Head of the Department of Electrical Engineering at the University of Illinois.

SKILLING, HUGH HILDRETH

Electric transmission lines distributed constants, theory and applications. New York: McGraw-Hill Book Company Inc., 1951. 438 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, F. E. Terman, consulting editor) \$7.00. 2098

Contents: Part I, Theory. The basic equations. Traveling waves. Standing waves on lossless lines. Lines with loss. Line parameters. Line constants: inductance and capacitance. Line constants: reactance, skin-effect, and induction loss. Artificial lines. Part II, Applications: Application of transmission-line theory to telephone lines. Introduction to filters. Application to power lines. Application to radio-frequency lines. Introduction to wave guides. Part III, Transient traveling waves. Traveling waves. Appendixes. Index.

Note: An engineering college textbook in which all types of electric transmission lines from power lines to control cables and bellows wave guides are treated. Emphasized more attention is given to lines designed for transmission and microwave frequencies than to other types of lines. The treatment is introductory to transmission lines, but familiarity on the part of the reader with ordinary circuit theory involving lumped constants has been assumed. According to the

KIMBARK EDWARD WILSON

Power system stability Volume II Power circuit breakers and protective relays. New York John Wiley & Sons Inc. 1950 288 p. illus. 24 cm. \$8.50 2105

Contents: Fault clearing—power circuit breakers. Fault clearing—protective relays. The influence of switching and out-of-step operation upon protective relays. Rapid reclosing. Index.

Note: (1814) The second volume published of projected three-volume work. Volume I, published in 1944, was devoted to fundamental problems and methods of calculating stability and instability characteristics, and to related topics such as alternating-current calculating boards. Volume II covers the topics noted above. Volume III will deal with synchronous machines, excitation systems, etc. The work is derivative of lectures given at Northwestern University in evening classes offered to graduate engineers, and the clear, concise style of the lectures has carried over to the book. Extensive bibliographies appear in the present volume.

LEWIS, WALTER WALLACE

The protection of transmission systems against lightning. New York John Wiley & Sons Inc., 1950 418 p. illus. 24 cm. \$10.00 2106

Contents: The accumulation of electricity in clouds. The mechanism of the lightning stroke. Voltage caused by lightning and arcing. Current in the lightning stroke. Wave shapes of lightning voltages and currents. Shielding by overhead ground wires and masts. Means for obtaining low tower footing resistance. Insulation and spacing of conductors. Alternative methods of protecting transmission lines. Protection of stations and existing machines. Overvoltage neutral. Appendix: Effect of altitude and locality on lightning. Calculation of capacitance of transmission lines. Index.

Note: A compact presentation of information about lightning and low electrical transmission systems are protected against it. It is addressed mainly to graduate electrical engineers who are concerned with the design or maintenance of power lines and systems. The important theoretical knowledge is stated concisely and the special, but principles of the chief protective devices are clearly explained. Each chapter is supplemented by lists of related literature. The author, now Professor of Electrical Engineering at Cooper Union, was associated with the Central Station Engineering Division of the General Electric Company for twenty-five years.

LOWELL ALFRED HENRY

Generating stations economic elements of electrical design. Fourth edition. New York McGraw Hill Book Company Inc., 1951 431 p. illus. 24 cm. \$6.50 2107

Contents: Elementary principles of corporate station. Cost of stations. Economic design. Power-plant load curves. Economic conductor section—power distribution systems. Power plant location. Bus systems and current-carrying reactors. Generating station auxiliaries. Circuit breakers and their applications. Interconnections in single-phase short circuits. Protective relays and their applications. Transmission lines with synchronous condensers.

Note: An engineering college textbook in which the student preparing for a course in power plant design is introduced to the economic aspects of the field. Corporate finance is discussed briefly in the first chapter, but the remainder of the book deals with matters that are of more direct concern to engineers—such as the economics of load curves, the economics of conductor sizes, etc. Most of all of the text has been changed, but revisions have been made wherever required as to the discussion of holding companies, fuel, circuit breakers, etc.

MARBURY R. E.

Power capacitors. New York McGraw-Hill Book Company Inc., 1949 205 p. illus. 24 cm. \$4.50 2108

Contents: Capacitor materials and characteristics. Capacitor rating, design, and manufacture. Industrial, high-frequency and d-c power capacitors. Application of stored capacitors to industrial power circuits. Application of stored capacitors to stability, industrial, transmission, and construction work with short circuits. Automatic control of capacitor bank. Series capacitors for line-reactance com-

pensating. Series capacitors directly applied to specific industrial loads. Capacitor installation and maintenance. Index.

Note: A review of the uses and applications of large-scale capacitors or condensers in electric power systems. The design, construction and operation of capacitors are described; but the author—who is on the staff of the Westinghouse Electric Corporation—is concerned primarily with showing how power capacitors may be selected and utilized to solve various power problems.

PETERSON HAROLD A.

Transients in power systems. New York John Wiley & Sons, Inc., 1951 361 p. 24 cm. \$8.50 2109

Contents: Overvoltages during power system faults. Effect of saliency on overvoltages during faults. System voltage recovery characteristics—calculation—system approach. Effects of arc restriking on recovery voltage. Switching surge—capacitive circuits. Switching surge and overvoltage arc-over discharge requirements. Overvoltages caused by sudden loss of load. Overvoltages caused by open conductors. Some additional non-linear circuits. Appendix: Measurements. Equations for differential analyzer. Equations for calculation of overvoltages. Equivalent circuits for various types of faults. Bibliography. Index. *Note:* An advanced book for graduate students preparing for work in the design of power systems and for graduate engineers already at work in this field. Modern methods of analysis including the transient analyzer and the differential analyzer are covered. According to the author, considerable part of the information included has not been published before. The long bibliography includes an earlier edition to the third paper and also chronologically arranged list of references beginning with 1900 and including two publications in 1951.

RÜDENBERG REINHOLD

Transient performance of electric power systems phenomena in lumped networks. New York McGraw-Hill Book Company Inc., 1950 832 p. illus. 23 cm. (McGraw Hill electrical and electronic engineering series F E. Terman consulting editor) \$12.00. 2110

Contents (abridged): A. Transient performance of lumped linear circuits. Part I. Simple electric circuit—switching on and off of self-inductive circuits. Charging and discharging capacitive circuits. General case of switching. Transition state of inductive circuits. Part II. Magnetically linked circuits. Mutual induction in circuits at rest. Switching of transformers. Consideration of inductance in elementary mechanical and thermal short-circuit effects. Part III. Static effects of switching moment. Acceleration of machinery. Starting of induction motors. Mechanical oscillations in alternating current machinery. Impact on synchronous machines from switching. Part IV. Influence of the earth. Ground fault currents in faulted systems. Atmospheric fields above the line. Electromagnetic induction on adjacent lines. Return currents under transmission lines. Inductive interference with communication lines. B. Performance of circuits of non-linear characteristics. Part I. Variable reluctance. Heating of cooled conductors. Melting of fuse wires. Part II. Interference by electric arcs. Interference of alternating current. Three-phase interruption. Mutual oscillations sustained by arcs. Part III. Magnetic attraction in circuits at rest. Switching of saturated direct-current circuits. Higher harmonics. Non-harmonic oscillations. Part VII. Rotational switching machinery. Bibliography. Index. Tables of functions.

Note: A thorough treatment of phenomena taking out of short circuits, lightning, and many other varieties of disturbances in electric power distribution systems. The original edition, published in Germany before World War II, gained an international reputation among engineers. This edition, which has been written directly in English by the author, is more comprehensive than the German edition and covers the developments since 1925. Mathematical parts of the exposition are well balanced with narrative discussion and illustrative matter. The book is addressed to advanced students of electrical engineering and practicing electrical engineers.

ELECTRIC MACHINERY**ALGER PHILIP LANGDON**

The nature of polyphase induction machines. New York John Wiley & Sons, Inc. 1951 397 p. illus. 24 cm. \$7.50. 2111

Contents: Fundamentals of saturable-core reactor devices. Applications and modifications of d-c controlled saturable-core reactors (non-electronic applications). Saturable-core reactor applications involving special and advanced theories of operation. Permanent magnet controlled saturable-core reactor. The d-c controlled saturable-core reactor. Pulsing transformers and voltage waveforms. A-voltage regulator applies magnetic regulation. Saturable-core frequency multiplier apparatus. Flux gates or fluxes. Saturable-core type servomechanisms. Magnetic amplifiers. Electronics and the saturable-core reactor.

Notes: An introductory book in which the subject is treated descriptively and mathematics is largely avoided. Reviews and basic knowledge of electrical terminology. Considering the book's level, the bibliography is exceptionally extensive and includes books, papers, and patents.

DUSENBERY, H. SYRIL

Direct current motor manual. New York
The Macmillan Company 1950 275 p. illus.
22 cm. \$4.50 2118

Contents: Basic principles. Forces and velocities. Motor heating. The motor field. The armature. Armature windings. Commutation. Commutator cars. Motor brushes. Insulating and maintaining brushes. Insulating materials. The series motor. The shunt motor. The compound motor. Selection and application. Tuning motors. Motor troubles. Reconnecting direct current motors. Starting the motor. Motor protection. Stopping the motor. Reversing the motor. Basic speed control. The direct current generator. Variable voltage speed control. Regulating circuits. Electronic rectifiers. Electronic speed control. Control mechanisms. Relays and choppers. Mechanical drives. Code requirements. Appendix of useful information. Glossary. Index.

Notes: A practical book for persons who are active in the installation, operation, and maintenance of modern direct current motors and associated control equipment. It contains, in addition to the material on motors, good descriptive treatment of new electronic devices for regulation and speed control which have recently become known in direct current motors. Very little mathematics is employed. Tables of the physical properties of materials used in motors should be convenient for electricians and others employed in the practical use of the field.

FITZGERALD ARTHUR EUGENE AND CHARLES KINGSLEY JR.

Electric machinery an integrated treatment of a-c and d-c machines. New York
McGraw Hill Book Company Inc. 1952
492 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick B. Terman, consulting editor) \$8.50 2119

Contents: Physical aspects of electromechanical energy conversion. Electromechanical energy conversion principles. Basic concepts of machine performance. Introduction to machine analysis. D-c machines—analysis of performance. D-c machines—application aspects. Synchronous machines—analysis of performance—effects of saturation and no-load poles. Polyphase induction machines. Fractional-horsepower a-c motors. Control type generators and self-synchronous machines. Electrical transients in machines and systems of machines. Dynamics of electromechanically coupled systems. Appendix: Basic theory of transformers. Table of constants and conversion factors. Index.

Notes: A new textbook designed for use by advanced undergraduate students of electrical engineering. It is presented on analytical study of rotating machines based on the concept of interactions between the magnetic fields of stator and rotor. Steady-state conditions in the machine and its system are assumed in most of the book, but in the final chapter the reader is introduced to electromechanical transients such as arise in the starting of motors, the switching of synchronous machines, etc. The authors are members of the faculty of the Massachusetts Institute of Technology.

GRAHAM, KENNARD COVILLE

Small commutator motors, Chicago
American Technical Society 1952 283 p. illus.
22 cm. \$4.90. 2120

Contents: General theory of repulsion—motor operation. Armature reaction. Winding head-wound armatures. Repulsion motors with head-wound coils. Types of repulsion motors. Assembly features of repulsion motor construction. Theory of direct-current motor. Wind-

ing direct-current motors. Assembly—trouble shooting direct-current motors. Index.

Notes: A new book for practical students studying in organized vocational courses or at home. It covers both a-c and d-c motors with commutators. The basic theory of such motors is explained simply but the details especially in its armatures winding and other mechanical operations. The text is clearly written in plain language and is supplemented by generous number of illustrations. Mathematics is almost wholly absent.

HARWOOD PAISLEY B

Control of electric motors. Third edition.
New York John Wiley & Sons Inc. 1952
538 p. illus. 24 cm. \$8.00. 2121

Contents: Introduction. Wiring diagrams. Construction of control apparatus. Pilot devices and accessories. Direct-current contactors and relays. Automatic accelerating methods for direct-current motors. The direct-current shunt motor. Shunt field relays and rheostats. Adjustable-voltage controllers. Automatic regulating systems. The direct-current series motor. Two-motor drives. Dynamic braking. Load controllers. Alternating-current contactors and relays. Automatic accelerating methods for alternating-current motors. The polyphase squirrel-cage motor. The wound-rotor motor. Single-phase motors. The synchronous motor. Magnetically operated breakers. Rheostat design. Tables. Index.

Notes: (1950) A standard work which is used both as text in engineering colleges and as practical survey for engineers and other technical personnel in industry whose work requires knowledge of controlling devices for motors. Information is included on the design, construction, and applications of controllers and on controlling elements and systems for various types of motors. The second edition was published in 1944. Many changes were made in both the text and illustrations and much new material was added in preparing this edition. The author is Vice-president in charge of engineering of Calumet-Hammett, Inc.

JAMES HENRY DUVAL AND LEWIS EDWIN MARKLE

Controllers for electric motors a treatise on the modern motor controller with typical applications to the industries. Second edition.
New York McGraw Hill Book Company Inc. 1952 426 p. illus. 24 cm. \$7.00. 2122

Contents: Functions and types of control. How to read controller diagrams. How to make controller diagrams. Magnetic contactors. Starting characteristics of motors with different methods of control. Methods of accelerating motors. Methods of speed control. Control for cranes, hoists, and other special applications. Mechanical and dynamic braking. Regeneration. Voltage control for direct-current motors. Amplifiers used for motor control. Magnetic amplifiers. Series-field control and the electric pneumatic controller. Adjustable-speed alternating-current motors of the wound-rotor type. Relays. Manual controllers. Direct-current magnetic controller controllers. Alternating-current controllers. Synchronous-motor control. Electric-brake control. Remote and supervisory control. Protective devices. National code, installation, and maintenance. Part and fixture control development. Index.

Notes: (1931*) A standard book for electrical engineers and other technically trained persons who select or maintain motor control equipment. It does not cover the analysis of control problems but is, instead, devoted to descriptions of types of controllers, their characteristics and applications. Although numerous examples of current U.S.A. makes of controllers are shown in the illustrations, the authors have not described the details of specific makes. For this edition the chapter on the control of cranes and hoist motors was rewritten, and numerous additions covering recent developments in motor control were added to other chapters.

KRON GABRIEL

Equivalent circuits of electric machinery
New York John Wiley & Sons Inc. 1951
278 p. illus. 24 cm. (General Electric series)
\$10.00 2123

Contents: Preface.—The philosophy of equivalent circuits. The physical model. The physical model at standstill. The primitive machine at constant speed. The transformation of reference frames. Induction machines. Synchronous machines. Commutator machines. Stationary networks. Interconnected machines. Space harmonics. Time

harmonics. Section short circuits and load variations. Epilogue—The electrostatics of equivalent circuits. Appendixes: Reestablishment of the mechanical dynamical equations from the equivalent circuits. Design constants of the shaded-pole motor. Visualizable and non-visualizable physical vectors.

Note. A book of interest to designers of electric machines and to other engineers. It must have fundamental knowledge of them. In it the electrical properties of rotating electric machines and groups of machines are reduced to stationary electric circuit models, which the author treats as equivalent circuits. How the stationary models are constructed is shown step by step for most types of machines. Uncommon types such as the Scherbius are covered, as well as more common types. The book is both original and important. The author is associated with the General Electric Company and the book appears in the "General Electric series."

KUHLMANN JOHN HENRY HELWIG

Design of electrical apparatus by John H. Kuhlmann assisted in the preparation of the third edition by N F Tsang New York John Wiley & Sons Inc. 1950 512 p. illus. 24 cm. \$7.00 2124

Contents. Section I. Direct current machines. Construction. Volt ampere and output equations. Armature windings and insulation. The magnetic circuit. Armature reaction and field winding design. Commutation and commutating pole design. Losses, efficiency and temperature rise. Sample design. Section II. Synchronous machines. Construction. Voltage levels and output equations. Armature winding and insulation. Magnetic circuit. Armature reaction in synchronous machines. Losses, efficiency and temperature rise. Sample design of synchronous motor. Section III. Induction motors. Construction. The stator. The rotor. Motor characteristics. Frequency-response single phase motor design. Section IV. Transformer construction. Core and windings. Operating characteristics. Sample transformer design. Appendix. List of symbols. Index.

Note. (1913) A standard book of practical design methods. It is used primarily as a textbook in engineering colleges, but it is suitable also as a guide for engineers elsewhere. It is preparing to enter the field of design. Basic theory, practical procedures, and design data are all covered. The appendices include numerous sample calculations. The second edition was published in 1940. Changes made in preparing this edition include an extensive revision of the sections on induction motors and transformers and extensive changes in other sections.

LIWSCHITZ GARIK MICHAEL

D-c and a-c machines based on fundamental laws. By Michael Liwshitz-Garik, assisted by Robert T. Weil, Jr. New York D Van Nostrand Company 1952 508 p. ii illus. 24 cm. \$5.00 2125

Contents (abridged). The fundamental laws. D-c armature windings. The magnetic circuit. The d-c generator. The d-c motor. Some special d-c machines. Transformer construction. The phase diagram and equivalent circuit of the transformer under load. Determination of parameters from no-load and short-circuit tests. Parallel operation of transformers. A-c armature windings. The parallel induction motor. Transformer. Circle diagram of the polyphase induction motor. Determination of parameters from no-load and locked-rotor test. Starting and speed control of the polyphase induction motor. Some special induction machines. The single-phase induction motor. Starting the single-phase motor. Equivalent circuit of the synchronous machine. Small synchronous motors. Handling of synchronous machines. The synchronous motor. The d-c armature in an alternating magnetic field. The single-phase series commutator motor. The repulsion motor. The 1-phase series commutator motor. (The Scherbius motor). Appendixes. List of symbols. Conversion table. References. Answers to problems. Index.

Note. A textbook for engineering courses. The importance of few fundamental laws, Faraday's law of induction; Kirchhoff's law of the electric circuit; circuit law of the magnetic field (Ampère's law); and law of force as conductor in magnetic field (Biot-Savart's law) is constantly emphasized. The author's method of instruction is to guide the student in the selection of these laws that apply to particular problems, to derive the fundamental equations of the machine characteristics, and then to demonstrate the derivation of the machine characteristics from these equations. The book is written in direct, easy-to-read style, and the discussions are adequately detailed. The author is a member of the faculty of the Polytechnic Institute of Brooklyn.

LIWSCHITZ GARIK, MICHAEL

Winding alternating-current machines a book for winders, repairmen, and designers of electric machines. By Michael Liwshitz Garik assisted by Celso Gentilini. New York D Van Nostrand Company Inc., 1950. 766 p. illus. 24 cm. \$8.50 2126

Contents. Classification of a-c windings and some fundamental principles. Types and functions of polyphase windings. Integral slot lap windings. Balanced fractional-slot lap windings. Unbalanced fractional slot lap. Induced integral slot and integral + 1/2 slot 3 phase wave windings. Balanced fractional slot wave windings. Unbalanced fractional slot wave windings. Two and more speed polyphase windings. Reconnection of all polyphase windings for any condition and reconnection on old core. Single phase windings and diagrams. Electrical links in a-c windings. Appendixes: Balanced fractional slot lap windings laid out with respect to the main wave. Balanced fractional slot lap windings laid out with respect to harmonics (induced with cyclic slot shift and directly chorded windings). Balanced fractional slot wave windings. Rotor angle and double chording. Unbalanced fractional slot lap and wave windings. Distribution and pitch factors of integral and fractional-slot windings. List of symbols. Bibliography. Index of diagrams. Index of tables. General notes.

Note. A practical instruction and reference book. It includes numerous articles of lap and wave windings not covered in the other books on winding. A considerable part of the space is devoted to reproductions of diagrams and other illustrative material. Extensive tables show all possible series and parallel connections for pole numbers between two and thirty. The main part is addressed to winders and electricians and includes no mathematical theory. The appendices contain mathematical analysis of the various types of windings and are of interest to designers of a-c machines.

MCDUGAL, WYNN LUTHER, AND E. C. GRANT

Small non-commutator motors. Chicago American Technical Society, 1951 265 p. illus. 22 cm. \$4.25 2127

Contents. Theory of motor operation. The use of inductance in motor operation. Operations preliminary to winding stator. Rotor winding and phase motor. Rewinding with formal coil. The capacitor motor. Essential features of motor construction. Special types of motor phase motors. Derivatives from split-phase type. Tapped motor and locating trouble. Index.

Note. A simplified treatise on alternating current motors that have no commutator and that are less than 1 horsepower in size. Such motors range from the simple low-power ones used in driving household electric clocks to complex and shielded-pole motors and in such applications as office machinery and household equipment. The basic principles and the elements of such motors are described as fully as possible without the use of mathematics. The book is designed for use in vocational courses in high schools and trade schools and for home study by apprentices electricians and others with practical interest in the subject.

MUELLER GEORGE VERNON

Alternating-current machines. New York McGraw Hill Book Company Inc., 1952 502 p. illus. 24 cm. \$7.50 2128

Contents. Construction details and no-load relations in transformers. Relations in loaded transformer. Parallel operation of transformers. Special types of transformers. Transformer connections in polyphase systems. Polyphase induction motors. Speed control of induction motors. Further induction machines topics. Synchronous generators. Synchronous motors. Single-phase motors. Asynchronous converters. Rectifiers. Appendixes. Index.

Note. The author of this text is Professor of Electrical Engineering in Purdue University and the book is intended for use in introductory courses in a-c machines offered to electrical engineering students who are majoring in machines and power circuits. There is some emphasis on these aspects of the subject which are useful in design. The illustrations include a number of oscillograms of the wave forms of currents in a-c machines.

PESTARI NI JOSEPH MAXIMUS

Metadyne statics. New York Published jointly by The Technology Press of Massa-

Massachusetts Institute of Technology and John Wiley & Sons, Inc., 1952 415 p. illus. 24 cm. \$9.50 2129

Contents: Part 1. General rules valid for all metadyadic transformations. Chemical circuits. Electromotive force induced in an isotropic metadyne. Main characteristics of an isotropic metadyne—the case of absolutely constant speed. Principal characteristics of an isotropic metadyne—the case of approximately constant speed due to regulating device. The metadyne with substantially variable speed. Metadyne complete with their mutual connections. Quantitative characteristics and static stability. Windings of the isotropic metadyne and of the associated box. On commutation. Part 2. Special cases of metadyne: Introduction. The cross transformer metadyne of substantially constant speed. Some transformer metadyne of degree $m=4$. Some generator metadyne of degree $m=4$. Some motor metadyne of degree $m=4$. Some applications using metadyne previously described. Special metadyne of degree $m=4$. Some applications of the metadyne already described. Hyperstatic metadyne—the "slight" transformer metadyne. Some metadyne of degree different from 4; $m \neq 4$. The runcosa transformer metadyne. Planetary. Glossary of nomenclature. Index.

Note: The author of this book discovered the class of direct current electric machines now known as metadyne in the course of making an analytical study of commutation in direct-current machines. Since his original discovery, numerous patents have been issued to him. A number of metadyne have been designed and built for specific applications. However the possibilities of the metadyne are still largely unexplored. The greater part of this book is devoted to the theory and analysis of the steady-state characteristics of metadyne. Included also are descriptions and analysis of variety of metadyne installations. At present the author is lecturer at the Massachusetts Institute of Technology and Columbia University.

ROBERTSON BURTIS LOWELL AND LEONARD J BLACK

Electric circuits and machines. New York: D Van Nostrand Company Inc., 1949 434 p. illus. 24 cm. \$5.75 2130

Contents: Electrical power. Comparison of electrical power. Circuit constants. Single-phase, alternating-current circuits. The single-phase transformer. Polyphase systems. Transformer connections. Electrical machines. Machine windings. Synchronous machines. Polyphase induction motors. Single-phase motors. Direct-current machines. Some basic aspects of electronics. Vacuum tubes and their characteristics. Amplifiers and oscillators. One-third tubes and power supplies. Electrical instruments. Appendixes. Index.

Note: A textbook specifically designed for college students of mechanical rather than electrical engineering. The principles and chief types of circuits and machines are covered with the more emphasis on single phase alternating current machines. A special feature is an unusually large selection of problems for the student to solve. The book was developed over a period of many years at the University of California.

SISKIND CHARLES SEYMOUR

Alternating-current armature windings theory practice, and design. New York: McGraw Hill Book Company Inc., 1951 236 p. illus. 24 cm. \$5.00 2131

Contents: General comparisons between d-c and a-c machine windings. Elementary principles of a-c machines. The single-phase circuits (equal) winding. Windings for repulsion-type motors. Windings for split-phase motors. Two-speed windings for split-phase motors. Winding types and coils for polyphase machines. Concentric close winding. Wave winding. Lap winding. Winding connections for different voltages. Fractional-pitch lap winding. Fractional-slot lap winding. Windings for multipole motors. Equalizer connections in polyphase windings. Winding changes and calculations in polyphase induction motors. Winding troubles: causes, symptoms, locations, remedies. Appendix. Index.

Note: A simplified, practical introduction. The basic principles of alternating-current machines are discussed briefly; then the main types of windings are described. There is somewhat more attention to the principles and characteristics of the various windings than there is to winding and rebuilding techniques. Nevertheless, the book is designed for students and electricians who are preparing to do practical winding. It is companion volume to the author's *Direct-current armatures building* (Index).

SISKIND, CHARLES SEYMOUR

Direct-current armature windings theory and practice. New York: McGraw-Hill Book Company Inc., 1949 149 p. illus. 26 cm. \$4.00 2132

Contents (abridged): The generator—principle of construction. Types of windings. Back pitch for lap winding. Armature and commutator windings. Parallel paths for lap windings. Armatures with more than two slots. Wave winding. Single-wave winding problems. Multiformer wave coils for wave winding. Dummy elements in wave windings. Parallel paths in simplex-wave windings. Multiplex-wave windings. Circulating currents in lap windings. Fringing windings. Voltage, speed and armature-winding calculations. Winding troubles—causes, symptoms, locations, remedies. Formulae. Wire tables. Index.

Note: In this excellent introductory presentation the author has simplified the problem of understanding direct-current windings by pointing out that all of them can be analyzed into two fundamental types: the lap and the wave. Both the exposition and the drawings are based on this analysis. Although written from a practical standpoint, the book is not a complete manual of d-c armature winding practice. Apparently the author's chief purpose was to make certain that his readers understood the principles of d-c windings rather than to give them details of shop operations. No discussion of rewinding techniques is included.

TIMBIE, WILLIAM HENRY, AND FRANK G WILSON

Industrial electricity Volume II Alternating-current practice. New York: John Wiley & Sons, Inc., 1949 781 p. illus. 22 cm. \$5.96 2133

Contents: Alternating currents: fundamental ideas. The use of vectors in computing a-c circuits and power—series, parallel and polyphase circuits. Power, power factor, single-phase circuits. Circuits containing reactance and impedance. Power in polyphase circuits. The alternator construction and armature windings. The alternator performance and operation. The transformer. The polyphase induction motor. Single-phase induction motor—commutator type motors. The synchronous motor. Short transmission and distributing lines. Long transmission lines—capacitive reactance. Conversion and rectifiers. Appendixes. Index.

Note: (ABET) The authors of this elementary text have achieved notable success in linking the basic principles of alternating-currents and their application to electrical machinery. Each chapter includes detailed discussion of how and why particular type of machine performs, its characteristics and capabilities, description and diagrams of the circuits involved, numerous review problems, and finally useful summary of the preceding material. The book is companion volume to the senior author's *Industrial electricity: direct current* (Index), and the two together present a complete knowledge of the fundamental principles of electricity as set forth in the earlier volumes.

ELECTRIC WIRING

ABBOTT ARTHUR LAURIE

National electrical code handbook. Seventh edition, based on the 1951 edition of the National Electrical Code. New York: McGraw-Hill Book Company Inc., 1952 652 p. illus. 20 cm. \$6.00 2134

Contents (abridged): Part 1. Definitions; general provisions. Part 2. Approved types of wiring. Part 3. Installation of materials and approved conductors. Open wiring on insulators. Cable assemblies. Raceways. Outlet, switch, and junction boxes and fittings. Bunches, pigtails, and miscellaneous. Switchboards. Lampholders. Lighting fixtures. Electrical appliances. Motors. Capacitors. Part IV. General requirements for wiring installations. Services. Grounding. Overcurrent protection. Design of wiring installations. Part 5. Special cases: Outside wiring. Hazardous locations. Garages. Theaters. Motion-picture studios. Elevators. Signs and outline lighting. Circuits and equipment operating at more than 600 volts between conductors. Radio equipment. X-ray equipment. Part 6. Construction of materials, devices, fittings and accessories. Index. Cross index. Subject index.

Note: (NECA) In this work the National Electrical Code is explained and interpreted for the benefit of architect, engineer, electrician, and others who will make practical use of the knowledge. Where rearrangement or rewording was necessary in order to clarify

code sections, the author has rearranged and reworded; but in most instances he has quoted code sections verbatim and has followed them with discussion and comment. The work has been a standard reference book since the appearance of the first edition in 1932. New editions follow closely upon publication of new editions of the National Electrical Code. Each new edition is rewritten extensively enough to make the book conform fully to the current code.

RICHTER, HERBERT P

Practical electrical wiring residential farm and industrial. Based on the 1951 National Electrical Code. Fourth edition. New York McGraw Hill Book Company Inc., 1952 602 p illus. 22 cm. \$6.75 2135

Contents. (Abstracted) Part I. Theory and basic principles. Underwriters and codes. Electricity—basic principles and measurements. Basic devices and circuits. Overcurrent devices. Types and sizes of ins. Wire connections and joints. Outlet and switch boxes. Differ. and wiring methods. Branch circuits and service entrance. Alternate wiring. Good lighting. Residential and farm service. Part 2 Actual wiring—residential and farm. Planning an installation. Installation of service entrance and ground. Installation of specific circuits. Old work. Poles, wires. Insulated and stand by power plants. Wiring apartment houses. Code requirements with respect to wire. Part 3 Actual wiring—commercial projects: Planning commercial installations. Commercial lighting. Wiring for motors. Wiring schools and churches. Wiring offices. Wiring stores. Wiring miscellaneous occupancies. Bibliography. Appendix. Index.

Note. (1412) A standard practical manual, useful primarily to the working electrician but valuable also to the home craftsman who wants to learn how particular operation in wiring should be done. In comparison to the previous edition published in 1947 it has been rather extensively revised. The changes made necessary by the publication of new editions of the National Electrical Code have of course been made. However in addition, the author has revised both the text and illustrations of sections unaffected by code revisions.

SEAGALL BEN Z

Electrical code diagrams. Based on the 1951 edition of the National Electrical Code. New York McGraw Hill Book Company Inc., 1952 2 v illus. 29 cm. Each volume, \$12.50 2136

Contents. Volume 1. Wiring design and protection. Wiring methods and materials. Index. Volume 2. Equipment for general use. Special occupancies.

Note. In this work all of the rules of the National Electrical Code, 1951 which lend themselves to illustrations are represented by diagrams. The arrangement within the chapters is essential, in accordance with the numbered rules in the code; there are always legends and often more discussion for each diagram, but the book must be read with a copy of the Code. It should prove useful to all who are concerned in practical work with the installation of electrical wiring, including electricians, electrical contractors, and inspectors.

UHL ALBERT AND OTHERS

Interior electric wiring and estimating residential, including farm buildings. By Albert Uhl, Carl H. Dunlap and Frank W. Flynn. Fourth edition. Chicago American Technical Society 1951 312 p illus. 22 cm. \$3.95 2137

Contents. How to and drawings for electrical construction. Electrical fundamentals applying to wiring. How to make electrical connections. Installing service switch and switching equipment. Wiring outlets and wall switches. Installing knob-and-tube wiring. How to do cable wiring. Wiring residences. Conducting wiring materials. Conducting wiring, tools, and methods. Electric ranges and water heaters. Residential furnace controls. Estimating electrical wiring. Electrical plans for the farm. Index.

Note. (1416) A well-established trade school textbook. It is written clearly and is generously illustrated. There are several features such as questions and detailed answers that make it a home study. However the book is not a substitute for the more comprehensive work

on electric wiring. This edition is thorough revision with many new illustrations, new review questions, new text in many parts etc. The chapters on apartment building and factory wiring that appeared in the earlier edition have been dropped and three new chapters have been added. The index is about three times as long.

ELECTRONICS

ADVANCES IN ELECTRONICS. Volume IV Edited by L. Marton. Editorial board T. E. Allibone and others. New York Academic Press, Inc., 1952 344 p. illus. 24 cm. \$7.50. 2138

Contents: Electron scattering in solids, by H. S. W. Massey. The solidification counter, by G. A. Morton. Fluorescence phenomena, by A. van der Ziel. Electronic digital computers, by C. Y. Li. Health. Modulation of continuous-wave spectrum, by J. S. Dand. The magnetic electron device, by W. E. Francis. Multichannel radio circuitry, by M. G. Parley and W. E. Tist. Author index. Subject index.

Note: The most recent volume in a series directed at non-familiar readers. Each of the papers is essentially a review of the literature pertinent to the topic named in its title. Statements and data are carefully referenced to the source articles. The style is technical and the series is designed as an aid to professional workers in electronics and related fields. It is with a hope of progress in areas in which they do not specialize. The papers are well organized for facility in reading and are accompanied by good lists of the related literature.

BLACKBURN, JOHN FRANCIS editor

Components handbook. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw Hill Book Company Inc., 1949 626 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Louis N. Ridenour editor-in-chief Vol. 17) \$8.00. 2139

Contents. Foreword, by L. A. DuBridge. Wire and cable. Feed components. Rectifiers. Fuel cell-based and semiconductor rectifiers. Low-loss inductors. Fluorescent devices. Electromagnetic delay lines. Repetitive delay lines. Phototubes. Special variable components. Rotary inductors. Instrumental meters and transducers. Power supplies. Relays and related devices. Rectifying tubes. Index.

Note. This volume is essentially a compilation of descriptive and tabulated technical data regarding the construction, operation, and specifications, and standards of various electrical devices used in such order and related electronic equipment as in subjects to such equipment. Like other volumes in the series, it is based largely on work carried out at the M.I.T. Radiation Laboratory during World War II. The book is planned as a reference manual to be used in conjunction with volumes from throughout some of the above series.

CAGE JOHN M.

Theory and application of industrial electronics. With the assistance of C. J. Bashe. New York McGraw Hill Book Company Inc. 1951 290 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick Emmons Terman, consulting editor) \$4.75 2140

Contents. Polyphase rectifiers. Grid-control circuits for gas tubes. Amplifiers for industrial electronics. Regulators and servomechanisms. Dynamics of closed-loop systems. Electronic control of motors and governors. Phase timing circuits. Limiters and thyristors in low frequency. Resistance-wireless controls. Induction heating. Dielectric heating. A survey of electronic measurements. Oscillators and pulse techniques. Miscellaneous principles and applications. Appendix. Index.

Note. In this text for advanced and graduate electrical engineering courses the purpose is to present the basic principles and theory of electronic devices used in industry. The space is almost evenly divided between fundamental theories and their application to problems in measurement, control, and power conversion. Although the

vacuum circuits are described and illustrated, as attempt is made to deal with the instruments of specific manufacturers. Review problems and brief lists of references are included in each chapter. The author is Professor of Electrical Engineering in Purdue University.

CHANCE, BRITTON, AND OTHERS, editors

Electronic time measurements. Edited by Britton Chance, Robert I. Hulaker, Edward F. MacNichol, Jr., and Frederick C. Williams. Office of Scientific Research and Development, National Defense Research Committee. New York: McGraw-Hill Book Company, Inc., 1949. 538 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N. Ridenour, editor-in-chief, Vol. 20) \$7.50. 2141

Contents: Introduction. Radio distance and speed measurements. Techniques of pulse time measurements. Generation of hard pulses. Generation of variable inductance-angle-scan circuits. Generation of variable inductance-currents. Mutual measurements. Techniques of microwave time measurement. Systems for subnanosecond time and position measurement. Special delay-transmission systems. Relay timer systems. Delay and cancellation of transient wave trains. Summary Index.

Note: In this volume the problems and techniques of measuring precisely very small intervals of time are considered. Methods involved behind the development of radio are mentioned, but mainly the book deals with the special circuits and devices that were developed in the Radiation Laboratory and elsewhere during the intensive development of radar before and during World War II. However, the emphasis is not on military applications but on methods that are more generally useful.

CHANCE, BRITTON, AND OTHERS, editors

Waveforms edited by Britton Chance, Vernon Hughes, Edward F. MacNichol, David Sayre, and Frederick C. Williams. Office of Scientific Research and Development, National Defense Research Committee. New York: McGraw-Hill Book Company Inc., 1949. 785 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N. Ridenour, editor-in-chief, Vol. 19) \$10.00. 2142

Contents: Introduction. Oscillations on waveforms with linear circuit elements. Oscillations with nonlinear circuit elements. Waveform distortion phenomena. Generation of fast waveforms. Modeling oscillations and delay-line pulse processing. Generation of triangular waveforms. Generation of special waveforms. Amplitude, selection, comparison and discrimination. Time selection. Electrical amplitude modulation. Electrochemical modulation. Time modulation. Amplitude and time demodulation. Resonant frequency amplifiers and dividers. Pulse-recurrence-frequency dividers. Counters. Mathematical operations on waveforms. Oscilloscope techniques in waveform measurement. Summary Index. Electrical delay lines. Repetitive delay devices. Bibliography. Appendixes. Glossary. Index.

Note: Another in the series of books based largely on work done at M.I.T. Radiation Laboratory during World War II. The volume serves as a comprehensive survey of basic circuit techniques used in the generation and manipulation of voltage and currents by linear and nonlinear circuit elements. It is intended to provide the designer of circuits and electronic devices with knowledge of those techniques which have proved successful in the development of radar systems, and with a practical description of the characteristics, design problems, and applications of wide variety of circuits. The circuits are grouped according to function rather than type.

COCKRELL, WILLIAM D.

Industrial electronic control: a guide to the understanding of electronic control circuits for industrial uses. Second edition. New York: McGraw-Hill Book Company Inc., 1950. 385 p. illus. 21 cm. \$5.50. 2143

Contents (abridged): Section 1, Electronic tubes: The vacuum triode. Gas-filled rectifiers. Special tube types. The mechanical construction of tubes. Section 2, Crystal components: Instruments and meters. Transformers and inductance components. Combination of component elements. Section 3, Basic electronic circuits: Rectifier circuits and filters. Timing and wave-shaping circuits. A-c phase-shift and switching circuits. Oscillator circuits. Section 4, Closed-cycle control systems: Regulating or closed-cycle control systems. Relay diagrams and their use in system stabilization. Section 5, Industrial electronic circuits: Direct-current rheostatic circuits and motor control. Altering-current relay and power circuit. Inductance-welding controls and motor control rheostats. Appendix. Index.

Note: (2143a) A useful manual for plant engineers, electricians, maintenance men, and others whose work involves the operation or repair of electronically controlled machinery and systems. Although intended for men with technical backgrounds, the treatment is largely nonmathematical. Relay elements and circuits are considered from the standpoint of characteristics and uses. Typical wiring diagrams are included. Important additions have been made in this revision, including the section on closed-cycle control systems.

DOW, WILLIAM GOULD

Fundamentals of engineering electronics. Second edition. New York: John Wiley & Sons Inc., 1952. 627 p. illus. 23 cm. \$8.50. 2144

Contents: Potential distribution diagrams. Electron motion. Cathode-ray devices. Electromagnetic waves in space-charge control tubes. Space-charge control of current. Triodes, tetrodes, pentodes, Diode-beam cathodes. Diodes in metals and semiconductor. Amplifier circuit principles. Amplifier coupling, oscillators. Introduction to microwave electron tube principles. Random velocities of gas particles. Ionization and excitation of atoms. Photoemissive processes. Current flow in gases. Vacuum tube safety signals. Arc and glow discharge phenomena. Gas-conduction rectifying devices. Tables. Bibliography. Index.

Note: (2147) To use the words of the author, this book deals with "the internal functioning of the electron devices that serve as the active elements in electronic circuits. The subject is treated essentially from the standpoint of engineers who are concerned with design of these electronic elements, such as tubes, and it covers not only the main points but also mentions smaller problems such as how to calculate the effect of space-charge-limited current of potential variations along the cathode. Primarily it is a text for electrical engineering students, but it is also useful for fundamental information and reference to graduate engineers. This edition incorporates considerable change of material put in the preceding edition, but on the author has almost doubled the length of the book is approximately the same. Recent literature has been added to the bibliography.

EASTMAN AUSTIN VITRUVIUS

Fundamentals of vacuum tubes. Third edition. New York: McGraw-Hill Book Company Inc., 1949. 644 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, F. E. Terman consulting editor) \$7.50. 2145

Contents: Part I, Basic concepts: Electronic symbols. Concepts: tubes of vacuum tubes. High-vacuum tubes. Gas-filled tubes. Photoelectron tubes. Special types of tubes. Part II, Applications and circuits: Rectifiers. The vacuum tube as control device. Audio-frequency amplifiers. Radio-frequency amplifiers. Oscillators. Power-tube circuits of vacuum-tube powerplants. Modulators. Demodulators. Appendixes. Author Index. Subject Index.

Note: (2148) An introduction to the basic principles of vacuum tubes used in radio and industry. Applications of such tubes and the circuits in which they are employed are also discussed at some length. The book is intended primarily for under electrical engineering students, but it is also of value to practicing electrical engineers. Readers are expected to have knowledge of mathematics through elementary calculus. This edition has been revised to include recent developments in the field. The chapter on audio-frequency amplifiers has been largely rewritten, and provides more detailed treatment of video amplifiers and of low- and high-frequency compensating circuits. The discussion of modulation and demodulation has also been expanded to form two chapters.

HILL, WILLIAM RYLAND

Electronics in engineering. New York: McGraw-Hill Book Company Inc., 1949. 274 p.

24 cm. (McGraw Hill electrical and electronic engineering series, F. E. Terman, consulting editor) \$4.50 2146

Contents (abridged): Practical emitters and diodes. Single-phase rectifier circuits. Grid-controlled vacuum tubes. Gas-filled tubes. Fluorescent devices. Electronic control circuits. Polyphase rectifiers. Practical amplifier circuits. Feedback. Resonance and tuned amplifiers. Oscillators. Amplitude modulation and demodulation. Transducers. The vacuum tube voltmeter. Appendix: The E-C discharge tubes.

Note: A relatively short introduction to basic electronic principles and devices. It is intended for advanced engineering students who do not intend to specialize in the field but who wish a fundamental understanding of it. Despite the brevity of the book, the discussion of important points is adequate and the exposition is usually illustrated by worked examples. Besides its intended use, the book should be of value to graduate engineers who wish to acquire information about electronics in home study.

KNOLL M AND B KAZAN

Storage tubes and their basic principles. New York John Wiley & Sons Inc., 1952 143 p. illus. 23 cm. \$3.00. 2147

Contents: Equilibrium potentials acquired by an ionizing surface under electron bombardment and the action of light. Definitions. Methods of writing and reading. Signal-converter storage tubes (local electrical). Writing storage tubes (electrical-optical). Computer storage tubes (electrical-electrical). Television-camera storage tubes (photo-electrical). Bibliography. Index.

Note: Electronic storage tubes such as are used in television cameras and electronic computers are covered in this book. The treatment is largely descriptive but on a level which makes the book useful to technically trained persons who have an interest in the subject although not specialists in electronic tubes. Writing methods (charging) and reading methods (discharging) are properly described in technical terms. The authors next describe the main types of tubes which have been developed to the commercial stage and also some which are under development. The following points are given for each type of tube: elements and operating principles, writing and reading principles and characteristics, half-wave characteristics and (to some extent) the method of arraying and other outstanding features. The descriptions are not specifically in terms measured by specific measurements. There is an extensive bibliography in which many of the entries have short annotations.

KOHL, WALTER HEINRICH

Materials technology for electron tubes. New York Reinhold Publishing Corporation, 1951 493 p. illus. 24 cm. \$12.50 2148

Contents: Physics of glass. The annealing of glass. Strain analysis of glass. Glass-metal seals. Electrical conduction in glass. Glass in radiation fields. Electrodes, stems, crystals and seals. Tungsten, Molybdenum, Tantalum, Nickel, Copper, Carbon and graphite. Joining metals by soldering and brazing. Corrosion and silica. Ceramic-to-metal seals. The phase rule. High-vacuum techniques. Thermionic emission. Author Index. Subject Index.

Note: A systematic survey of the physical properties of the materials used in electron tubes. Commensurate information is included on the manufacturing and fabrication of these materials, but the book is not treated as a manufacturing techniques. The treatment is technical, and the work is intended for scientists doing research in connection with the design and manufacture of electron tubes as well as for physicists interested in tube phenomena. The text is well documented with literature references and is supplemented by many tables of chemical, physical, and mechanical data.

KRAMER, ANDREW WILLIAM

Industrial electronics elementary principles & applications. New York Pitman Publishing Corporation 1949 311 p. illus. 24 cm. \$6.00. 2149

Contents: Electron behavior. Fundamental principles of the electron tube. The simplest thermionic tube—the diode. The triode. Triode characteristics and operations. Electronic generation of electric oscillations. Multielement tubes. Effect of gas in tubes. Types and characteristics of gas tubes. Tubes: Mercury-pool tubes. Fluorescent tubes and cells. Cold-cathode tubes. Special-purpose tubes. What tubes can do. Electronic control and regulation. Application of electron-tube rectifiers. Electronic in instrumentation and

measurement. Industrial applications of electronic control. Applications of electronic regulation. Electron tubes in heat protection. Electron tubes in light production. Miscellaneous electronic applications. Index.

Note: This book provides nonmathematical explanation of the fundamental principles of electronics and clear descriptions of typical industrial applications of electron tubes and related devices. It is especially suited to the needs of workers who come in contact with industrial applications of electronics in the course of their work and desire to acquire an understanding of them by means of home study. Although elementary and intended for persons who probably will not undertake formal study of the subject, the writing is factual and the author has not gone out of his way to simplify terminology.

MARKUS JOHN AND VIN ZELUFF

Electronics for communication engineers. New York McGraw Hill Book Company Inc. 1952 610 p. illus. 28 cm. \$10.00. 2150

Contents (abridged): Amplifiers. Antennas. Audio. Cathode-ray tubes. Components. Electronic music. Filters. Measurements. Micro-wave. Oscillators. Power supplies. Propagation. Pulse. Rectifiers. Transmissions lines. Transmitters. Index.

Note: A collection of 153 outstanding articles which appeared in the periodical *Electronics* during the period April, 1940 to November, 1951. The articles are grouped under the headings given above, and the general index to the volume covers all of them. It is possible to locate the original text has been abridged, but usually the full text and all of the illustrations are reprinted. The date of publication of the original article is shown in parentheses. The book is well equipped with reference material for workers in the electronics and communication fields.

MILLMAN JACOB AND SAMUEL SEELY

Electronics. Second edition. New York McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series F. E. Terman consulting editor) \$7.50. 2151

Contents: Introduction. Motion of charged particles in electric and magnetic fields. Applications of the motion of particles in applied fields. Electronic phenomena in metals. Statistical electron theory of metals. Characteristics of thermionic emission. Photoelectric effect. The kinetic theory of gases. Fundamental processes in semiconductors. The kinetic theory of gases. Commercial gas tubes. Rectifiers. Diodes for rectifiers. Polyphase rectifiers. Photoelectricity and photoelectric cells. Triode characteristics. Triodes in circuit elements. Miscellaneous tubes. Appendixes. Index.

Note: (721) A well-established textbook in which adequate attention is paid both to theory and applications of electronics. It is suitable for engineering students who are preparing for careers in electronics engineering, industrial electronics, and electrical communications engineering. Although the present edition is 127 pages shorter than the first edition, the book has been well revised and contains considerable coverage of new matter added. The changing has been accomplished largely by the elimination of two chapters and by adding the type on that there are three more lines in the page.

PIERCE JOHN ROBINSON

Theory and design of electron beams. New York D Van Nostrand Company Inc. 1949 197 p. illus. 24 cm. (The Bell Telephone Laboratories series) \$4.00. 2152

Contents: Properties of electric and magnetic fields. Forces and equations of motion. Simple electron motion. Some general applications. Some typical special problems. The parallel wire configuration. Magnetic and electric lenses—analytical and numerical solutions. The effect of thermal electron emission. Space charge in electron beams. Electron guns. About designing electron beam devices. Appendixes. Vector relations. Table of physical constants. Index.

Note: A text and reference book in which is presented theoretical material necessary for an understanding of electron flow and electron beams. Included in the volume are the electron microscope and image tubes. It is a book on electron flow and electron beams in vacuum tubes, not tubes and especially in microwave tubes. Although the book is not called a book on electron optics, much of the elementary material of such books is included, with many material and some emphasis on space charge and thermal electron emission. It is used in books on the electron optics. A subject bibliography is given as part of the preface, with occasional other references appearing in footnotes. A

feature of the book is the inclusion of a set of problems, included not only to test the reader's understanding of the work, but also to test his ability to solve problems. The book is written in a clear, concise, and to the point style, and it is a book that the reader can work out himself with the help of the book.

PIERCE, JOHN ROBINSON

Traveling wave tubes. New York: D Van Nostrand Company, Inc., 1950. 260 p. illus. 23 cm. (Bell Telephone Laboratories series) \$4.50. 2153

Contents: (abridged) Simple theory of traveling wave tubes. The helix. Filter-type circuits. General circuit considerations. The circuit described in terms of normal modes. Equations for traveling-wave tubes. The nature of the waves. Dispersion relations. Noise figure. Backward waves. Power output. Transverse motion of electrons. Field relations. Magnetron amplifier. Double-stream amplifiers. Appendix: Preparation of helically conducting sheet. Stored energies of circuit structures. Evaluation of space-charge parameter Q . Double equations of Llewellyn and Peterson. Evaluation of impedance and Q for this and other tubes. How to calculate the gain of traveling-wave tubes. Bibliography. Index.

Note: The traveling wave tube has several advantages over other types of electronic tubes, but the chief one is a very wide band width. This first book on the subject was written by a member of the technical staff of the Bell Telephone Laboratories, and it is addressed to graduate students in the communications field. It provides a detailed treatment of the theory of traveling-wave amplifiers and some indication of their practical use. Magnetrons and double-stream amplifiers, viewed as related devices, are discussed more briefly. Apparently the bibliography lists all of the articles that had appeared up to August, 1949.

RIDER, JOHN FRANCIS

Vacuum-tube voltmeters. Second edition. Revised by John F. Rider and Alfred W. Barber. New York: John F. Rider Publisher Inc., 1951. 422 p. 21 cm. \$4.50. 2154

Contents: Fundamentals of vacuum tube voltmeters. Diode vacuum tube voltmeters. Triode vacuum tube voltmeters. Rectifier-amplifier vacuum tube voltmeters. Triode vacuum tube voltmeters. Amplifier-vacuum tube voltmeters. Grid-leak vacuum tube voltmeters. Vacuum-tube voltmeters for D-C voltage, current, and resistance measurements. Probes for RF and DC. Design and construction of vacuum tube voltmeters. Calibration and testing of vacuum-tube voltmeters. Applications of vacuum-tube voltmeters. Commercial vacuum tube voltmeters. Maintenance and repair of vacuum-tube voltmeters. Bibliography. Index.

Note: The present revision of this useful manual, like its predecessor, is intended primarily for radio engineers and tube servicemen. Theoretical considerations have been kept to a minimum, and emphasis is placed on the practical aspects of V-T voltmeter design, construction, operation, and use. In this edition, which has been expanded by more than 100 pages over the first edition (1941), the operating characteristics of new types of V-T voltmeters are described, and the circuits and specifications of most commercial meters are now included. A chapter on maintenance and repair has been added, and the extensive bibliography has been brought up to date.

RIDER, JOHN FRANCIS AND SKYMOUR D. USLAN

Encyclopedia on cathode-ray oscilloscopes and their uses. New York: John F. Rider Publisher Inc., 1950. 992 p. illus. 29 cm. \$9.00. 2155

Contents: Introduction. Principles of electron-beam deflection and focusing. Principles of electrostatic deflection and focusing. Mechanical characteristics. The electron gun. Deflection systems in cathode-ray tubes. Scopes. Spot displacement. Linear time bases (sweep circuits). The basic oscilloscope and its modifications. Synchronization. Phase and frequency measurements. Modifiers: time bases, auxiliary equipment. Testing and frequency circuits. Visual alignment of A-M, F-M, and television receivers. Waveform observation in television receivers. Transmitter tests. Electrical measurements, scientific and engineering applications. Complex waveform patterns. Special purpose cathode-ray tubes. Commercial oscilloscopes and related equipment. Appendixes. Characteristics of cathode-ray

tubes. RMA cathode-ray-tube testing. Photography. Bibliography. Index.

Note: A successor to Rider's *The cathode-ray tube* of work first published in 1915. It contains approximately as much as such material as the earlier work. It is designed primarily for users of cathode-ray oscilloscopes, particularly radio and television servicemen; however, it contains a good deal of material which is basic and not directly applicable to work. The chapter on commercial oscilloscopes gives the wiring diagrams and other information for most if not all of the American instruments recently or currently manufactured. The bibliography is extensive.

RUTTER, JACOB H. JR.

Modern oscilloscopes and their uses. New York: Murray Hill Books, Inc., 1949. 326 p. illus. 24 cm. \$6.00. 2156

Contents: Introduction. History of the oscilloscope. Brief history of development of the cathode-ray tube. Fundamental principles of cathode-ray tube operation. Details of the modern cathode-ray tube. The general purpose oscilloscope. Power-supply circuits. Amplifiers, attenuators, and peaking circuits. Time base circuits. Operation of the oscilloscope. Instrumentation. Auxiliary equipment. Typical applications in the electronics industry. Servicing in radio receivers. Servicing in radio receivers. Servicing in television receivers. Use of the radio transmitter. Using the oscilloscope in teaching. Additional industrial applications of the oscilloscope. Photographing cathode-ray patterns. Glossary. Index.

Note: This volume, written for radio engineers, electrical engineers, students, and others whose work involves the use of oscilloscopes, provides a clear and practical account of the construction, operation, and industrial uses of oscilloscopes. Because of the importance of these instruments in the field of radio, considerable space is devoted to the use of oscilloscopes in servicing radio and television receivers. The book requires a background knowledge of electricity and general physics. It is intended for users of oscilloscopes rather than engineers in the field. The author is associated with the Allen B. Duffell Laboratories, Inc.

RYDER, JOHN DOUGLAS

Electronic engineering principles. Second edition. New York: Prentice-Hall, Inc., 1952. 505 p. illus. 22 cm. \$9.00. 2157

Contents: The fundamental particles of electronics. The movement of charged particles in fields. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. Vacuum diode rectifiers. The vacuum triode. Multi-element tubes. Small-signal amplifiers. Feedback. Long-swinging amplifiers—class A and B. Gas-filled conductors. Gas diodes. Gas-filled vacuum tubes and diodes. Photoelectric cells. Solid-state electronics. Appendix: Selected vacuum tube characteristic curves and data. Index.

Note: An engineering college textbook in which electronics is treated as an engineering specialty in its own right rather than as a subdivision of communications engineering or radio. In other words, the primary emphasis is on the electronic aspects of the design and characteristics of electron tubes rather than on the devices in which they are employed. Nevertheless, there is a good deal of discussion of basic circuits in which electron tubes are used. The first edition was published in 1947. For this edition the work was substantially revised and augmented. Changes were made in the text, illustrations, and bibliography, and the final chapter was added so as to incorporate the advances represented by the development of the transistor.

RYDER, JOHN DOUGLAS

Electronic fundamentals and applications. New York: Prentice-Hall, Inc., 1950. 806 p. illus. 23 cm. (Prentice-Hall electrical engineering series, W. L. Everitt, editor) \$10.00. 2158

Contents: (abridged) Fundamental particles. Electron behavior. The cathode-ray tube. Emission of electrons. Space charge in vacuum tubes. The vacuum triode. Small-signal amplifier circuits. The multi-tube amplifier. Vacuum-tube oscillators. Modulation systems. Demodulation. Wave-shaping circuits. Gas-filled conductors. Gas diodes. Gas vacuum tubes and diodes. Photoelectric cells. Solid-state electronics. Appendixes. Index.

Note: (1847) A substantial textbook for upper-level students of physics or electrical engineering. It is based on the author's *Electronic Engineering* (1947) but much new material has been added. Basic physical principles, tube characteristics, and

fundamental circuits are now all covered. The other is Head of the Department of Electrical Engineering in the University of Illinois.

SEELY, SAMUEL

Electron-tube circuits. New York McGraw-Hill Book Company Inc., 1950 529 p. illus. 23 cm. (McGraw-Hill electrical and electronic engineering series, F E Terman consulting editor) \$6.50. 2159

Contents (abridged): Vacuum tubes as circuit elements. Basic amplifier principles. Detuned voltage amplifiers. Special amplifier circuits. Electronic computing circuits. Limited power amplifiers. Tuned voltage amplifiers. Tuned power amplifiers. Oscillators. Rectifiers. Amplifier modulation. Demodulation. Frequency modulation and detection. Relaxation oscillators. Non-linear biased relaxation circuits. Bridge generators. Electronic instruments. Appendixes: Multiscale theorem. Field characteristics of rectifier-type tubes. Characteristics of transmitting tubes. Table of beam functions of the first kind. Index.

Note. Although primarily textbook for upper-level and graduate students in electronics, this book holds potential interest also for electronic engineers out of college and even for amateur constructors. A wide range of circuits is covered, not only in radio but also in radar, television, electronic control, and electronic computing. Special attention is given to the characteristics of circuit elements and circuits as to be prepared for the practical design of electronic apparatus. Some material from *Electronic* by J. Millman and the author (New York, 1944) has been incorporated in this work.

SHOCKLEY, WILLIAM

Electrons and holes in semiconductors with applications to transistor electronics. New York D Van Nostrand Company Inc., 1950. 588 p. illus. 24 cm. (Bell Telephone Laboratories series) \$9.75 2160

Contents. Part I: Introduction to transistor electronics. The bulk properties of semiconductors. The transition to circuit elements. Quantitative studies of injection of holes and electrons. On the physical theory of transistors. Part 2: Descriptive theory of semiconductor. Quantum statics, energy bands, and diffusion rates. Velocity and currents for electrons in crystals. Electrons and holes in electric and magnetic fields. Laboratory theory of conductivity and Hall effect. Distributions of quantum states in energy. Fermi-Dirac statistics for semiconductors. Mathematical theory of conductivity and Hall effect. Applications to transistor electronics. Part 3: Elementary quantum-mechanical foundations. Introduction to part 3. Elementary quantum mechanics with crystal theory analogies. Theory of electron and hole velocities, currents and accelerations. Statistical mechanics for semiconductors. The theory of transverse probabilities for holes and electrons. Appendixes. Name index. Subject index.

Note. The development of the transistor and the recognition of its many potential applications in electronic devices have resulted in increased interest in the conductance of electricity by the solid semiconductor. The subject is scientifically interesting not only because of possible practical applications but because of the light the associated phenomena shed upon the nature of solids. In this important work by a member of the technical staff of Bell Telephone Laboratories, Inc. the subject is treated from the standpoint of statistical physics. The concept of the excess electron and is counterpart, the "hole" with positive charge, is explained in terms of the quasi-free theory but is nevertheless related to practical work in transistor electronics.

TERMAN, FREDERICK EMMONS AND JOSEPH MAYO PETTY

Electronic measurements. Second edition. New York McGraw-Hill Book Company, Inc. 1952 707 p. illus. 24 cm. (McGraw-Hill electrical and electronic engineering series, Frederick E Terman consulting editor) \$10.00 2161

Contents: Voltage and current. Power. Circuit constants of lumped circuits. Circuit constants in systems involving distributed constants. Measurement of frequency of voltage, phase and two-terminal systems. Characteristics of triodes, pentodes and similar tubes. Amplifier measurements. Receiver measurements. Antennas. Radio waves. Laboratory oscillators. Generation of special waveforms. Re-

search and resistance standards and devices. Attenuators and signal generators. Author index. Subject index.

Note. (1944) The first edition of this book was titled *Measurements in radio engineering* and it was well received as a text for college students of radio engineering and reference book for radio technicians. In this edition the scope has been expanded to include measurements in the higher frequencies used in television, radar, etc. hence the change in title. It now contains about twice as many words and more than a 100 as many illustrations as it did in the first edition. However, it is still addressed to university students and advanced engineers who are interested in the principles and techniques of measurements in radio and electronics. The laboratory experiments that were outlined in the appendix of the first edition have been dropped. The literature citations have been much extended and the names of authors of cited papers are now included in separate index.

YOUNG, MILTON GABRIEL, AND HARRY S. BUZCIE

Fundamentals of electronics and control. New York Harper & Brothers 1952 525 p. illus. 25 cm. \$6.00. 2162

Contents: Electronic theory. Basic circuit components and control. Principles of electron motion. High vacuum (hard) tubes. Tubes utilizing gas (soft tubes). Mercury pool tubes. Amplifiers. Oscillators. Modulation and demodulation. Rectifiers. Appendixes. Index.

Note. A textbook for use in engineering colleges and technical laboratories it provides an adequate coverage of theory and includes also discussion of standard electronic devices including such recently developed ones as the transistor. Enough illustrations is included on many topics to meet the needs of the prospective engineer and worker in industry. For example, the chapter on vacuum tube tubes is 10 pages long and includes 11 references to related literature.

ZELUFF, VIN, AND JOHN MARKUS

Electronics manual for radio engineers. New York McGraw-Hill Book Company Inc., 1949 879 p. illus. 28 cm. \$14.00. 2163

Contents: Antennas. Audio. Circuit theory. Components. Diode amplifiers. Filter. Transformers. Measurements. Microwave. Power supplies. Production. Rectifiers. Television. Transmitters. Loss. Tube ratings. Tube index.

Note. (1949) A collection of 259 articles which appeared in the periodical *Electronics* during the period 1940-1942 and which have been in demand for reference use by such as radio and other communications fields. It is similar in scope to *Electronics for Engineers* (New York, 1945) and in fact there is slight overlap of duplication. Some editing is apparent, but generally speaking the texts of the articles are unchanged from the published form. Citations are given to the original publications. An extensive subject index makes the volume a reference manual of considerable usefulness.

ZWORYKIN, VLADIMIR KOSMA, AND E. G. RAMBERG

Photoelectricity and its application. New York John Wiley & Sons, Inc., 1949 494 p. illus. 24 cm. \$8.50. 2164

Contents: Historical introduction. General theory. Photoelectric surfaces. Materials and apparatus for making photoelectric. The phenomena of primary photoeffect. The vacuum photoelectric. Photoemitted photoelectrons. The multiplier photoeffect. The large tube. Photoemitted cathode. Photoemitted cathode. Photoemitted cathode. The measurement of small photoelectricity. Photoelectric emission in using devices. Photoresistors in sound reproduction. Photoresistors in light picture transmission. Photoresistors in camera tubes in television. Light pipe signaling and infrared detection. Microcathode applications of photoelectricity. Photoelectric in the future. Appendix. Author index. Subject index.

Note. (1947) A comprehensive but largely descriptive survey. Somewhat more than half of the book is given over to describing the operating principles, characteristics and uses of photoelectric devices. The coverage is broad, including not only experimental steps in commercial use but also inventions still in the experimental stage. An example of the latter is photoelectric reading machine for the blind. The work will be useful to engineers, machine designers, and inventors. Extensive bibliography are appended to the chapters. The book reproduces V. K. Zworykin and E. G. Ramberg, *Photoelectricity and its application*, second edition, New York, 1932.

COMMUNICATIONS ENGINEERING

GENERAL

ALBERT, ARTHUR LEMUEL

Electrical communication. Third edition. New York John Wiley & Sons, Inc., 1950. 593 p. illus. 23 cm. \$6.50. 2165

Contents: Early history of electrical communication. Fundamentals of acoustics. Electrical fundamentals of communication. Electrostatic devices. Electric networks. Transmission lines. Cables and wave guides. Electronic applications in communication. Telegraph systems. Telephone exchange service and systems. Telephone toll service and systems. Radio wave propagation and antennas. Radio systems. Interference and noise. Index.

Note: (1219) A standard work used both as textbook in engineering colleges and reference book in libraries. Although typical apparatus is described, most of the emphasis has to do with the physical and electrical principles. The chapters are supplemented with good illustrations. In this edition the text has been rearranged and similar has been added on developments since the last edition. Included is a much fuller treatment of the telephone system.

ALBERT, ARTHUR LEMUEL

The electrical fundamentals of communication. Second edition. New York McGraw Hill Book Company Inc., 1952 531 p. illus. 24 cm. \$7.00. 2166

Contents: The fundamentals of electronics. Direct voltage and currents. Conduction, resistance, and semiconductors. Direct-current electric power and energy. Alternating voltage and currents. The magnetic field and inductance. The electric field and capacitance. Electric measuring instruments. Alternating-current circuits. Algebraic representation of vectors. Electric networks. Bridge circuits. The transmission of electromagnetic waves. Fundamental principles of electron tubes. Electron tubes as circuit elements. Electroacoustics. Apparatus. Natural trigonometric functions. Index.

Note: (1220) A successful laboratory text for students in the intermediate level and for practical workers in the communication industries. It provides simplified treatment of the fundamental electric and electronic theories and phenomena upon which telegraphy, telephony, radio, and television are based. It is not descriptive work devoted primarily to devices. The first edition appeared in 1942. The present scope of the book was not changed in revising it for the present edition. Nevertheless, it has been extensively revised and many parts completely rewritten.

BRECKALE, WILLIAM McSWAIN, AND LAWRENCE R. QUARLES

Lines, networks and filters. Scranton International Textbook Company 1951. 293 p. illus. 24 cm. \$6.50. 2167

Contents: Fundamental relations. Fundamental transmission-line equations. General transmission-line equations. Open and short-circuited lines. The loss with any termination; reflection losses. Telephone and telegraph lines. U.S.-F and microwave lines. Transmission diagrams. Resistance and inductance losses. Filter networks. Tuned circuits. Impedance transforming networks, couplers, and attenuators. Line and network applications. Appendixes. Index.

Note: A college textbook devoted chiefly to the phenomena and mathematical calculations of wave communication circuits. It does not only with telephone and telegraph lines but also with radioelectric cables, twisted cables, etc. and is limited largely to these aspects that would be of interest to the design of such circuits. The authors

have made extensive use of vectors in order to keep the mathematics as simple as possible. The reader will need previous college courses in introductory physics and mathematics.

CREAMER, WALTER JOSEPH

Communication networks and lines. New York Harper & Brothers, 1951 353 p. illus. 24 cm. \$6.00. 2168

Contents: Part I: Network configurations. Network Laplace transforms. Transmission constants. Network transformations and reduction. Alternations. Network elements. Microelement circuits. Transformers. Losses. Transmission synthesis. Electric wave filters. Part II: General transmission equations. Open- and short-circuited lines. Lines with terminal impedances. Cable circuits. Composite lines. Line hypothesis. Transmission lines at carrier frequencies. London lines. Appendixes. Index.

Note: The first part of this textbook for advanced electrical engineering students deals entirely with networks and considers largely of network analysis and problems in the design of attenuators, filters, and equalizers. The second part contains the theory of communication lines with applications to cables and open-wire circuits at radio and carrier frequencies. The presentation is largely algebraic with liberal use of hyperbolic functions of complex angles. Tables and charts of hyperbolic functions appear among the appendices. Students beginning the book should have previous understanding of telephone apparatus and systems, as well as knowledge of elementary hyperbolic function theory.

CUCCTA, C LOUIS

Harmonics sidebands, and transients in communication engineering as studied by the Fourier and Laplace analyses. New York McGraw Hill Book Company Inc., 1952 465 p. illus. 24 cm. (McGraw Hill electrical and electronic engineering series, Frederick E. Terman, consulting editor) \$9.00. 2169

Contents: Elementary functions of complex variables. Partial-wave analysis—the Fourier series. Hyperbolic waves—the Fourier transform. The Laplace transform. Complex waves in radio, television, and color. Linear-network analysis. Harmonic distortion—complex operation. Carrier-circuit-tube circuits. Harmonics and transients in filter networks. Harmonics and transients in amplifiers. Integrating, differentiating, and scanning systems for television. Rectifiers, filters, frequency stabilizers, and phase synchronizers. Modulation systems in electrical communications. Amplitude-modulated waves. Long-tube frequency modulation. Single-tone phase modulation. Indirect frequency modulation and wave distortion. Multitone frequency-modulated waves and pulse-width modulation. Spectral analysis of noise waves. Wave transmission through linear networks. Traveling waves in communication systems. Reception in electrical communications. Appendix: Special functions of the first kind. Name index. Subject index.

Note: In this useful work the mathematics of harmonics and transient analysis are explained for communications engineers, and the mathematical methods are applied to a variety of engineering problems in the communications field. The nature and typical uses of Fourier and Taylor's series and the Laplace transformation in convenient outline of communication engineering are fully covered. Selected harmonic references are included. The book is of interest not only to graduate students of communications engineering but also to engineers at work in research and design. The author is Research Engineer on the staff of the David Sarnoff Research Center of RCA Laboratories Division.

HUND AUGUST

High-frequency measurements. Second edition. New York McGraw Hill Book Company Inc., 1951 676 p. illus. 24 cm. (International series in pure and applied physics G. P. Harnwell consulting editor) \$11.00.

2170

Contents. Fundamental relations and circuit properties. High-frequency sources and other special laboratory apparatus. Apparatus and systems for measuring high frequency noise. Index and bibliography. Determination of voltage. Determination of power. Determination of capacitance. Determination of self-inductance. Determination of mutual inductance and coupling. Determination of effect substance. Determination of high frequency power and losses. Determination of logarithmic decrement, power factor, phase difference, and sharpness of resonance. Ferroelectric measurements. Tube measurements. Modulation measurements. Measurements on lines and aerial systems. Determinations on wave propagation. Miscellaneous measurements. Appendix. Index.

Notes (3718) An established work that is used both as a textbook for advanced college students of radio engineering and as reference book in radio and electronic laboratories. In its present edition it presents thorough coverage of measurement methods throughout the band of radio frequencies that are now in use including UHF and super-high frequencies. Facility in radio terminology and engineering mathematics is assumed in the treatment. Important changes and additions were made in preparing the present edition.

HUND AUGUST

Short wave radiation phenomena. New York McGraw Hill Book Company Inc. 1952 2 v illus. 24 cm. (Radio communication series Beverly Dudley consulting editor) \$20.00 2171

2171

Contents: Volume 1. Fundamental concepts and principles of fields and electromagnetic fields. Space electromagnetic fields of stationary electric and magnetic dipoles. Fundamental methods used in electrostatic theory. Space charge fields. Transverse electromagnetic waves. Electromagnetic waves in a vacuum. Electromagnetic waves in a medium and radiation. Unscattered space radiation in the presence of electromagnetic obstructions. Electromagnetic diffraction. Wave guides and cavities. Appendix. List of references. Name index. Subject index.

Note An intermediate-level text or treatise, addressed both to students in formal courses and to self-educating experienced and graduate engineers studying by themselves. The typical chapter is a self-contained monograph on a specific area of the field, containing the pertinent theory and the needed mathematical formulas and computations. The treatment is analytical and is adequately detailed for self-instruction. The work is whole precisely with some of informality, together with references to the original literature. The subject indexes run to 75 two-column pages.

JONES CHARLES RYND

Facsimile. New York Murray Hill Books,
Inc. 1949 422 p. illus. 24 cm. \$6 00 2172

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Company Introduction. by W. G. H. Flach Part 1, What fac-
tories are Facsimile in the past. Modern facsimile equipment. Fac-
simile systems. Part 2, How facsimile works. Other facsimile devices.
Part 3, How facsimile works. Facsimile transmitters. Facsimile
transmission facilities. Facsimile systems. Facsimile synchronization
and timing. Type facsimile systems. Facsimile standards. Part 4,
Present-day facsimile systems. Facsimile systems. Acme facsimile
systems. Facsimile systems. The American facsimile system.
Company Flach Telecommunications, Inc. Radio Inventions, Inc.
Time Facsimile Corporation. Western Union Telegraph Company
Part 5, Servicing. Servicing facsimile equipment. Detailed service
notes. General Index.

Note. A descriptive rather than analytical work on the principles of transmission by name and value of facsimiles of photographs, printed materials, etc. Specific, fairly detailed descriptions of facsimile apparatus are in production and use in the United States of America are included. Although there is some emphasis on matters that concern operating and maintenance personnel, the book is so written that it can serve as general source of information on the subject.

KERR, DONALD E., editor

Propagation of short radio waves. Office of Scientific Research and Development, National Defense Research Committee. Editorial staff: Donald E. Kerr, S. A. Goudsmit, Leon B. Linford and Albert M. Stone. New York: McGraw-Hill Book Company Inc., 1951. 728 p. illus 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N. Ridenour editor-in-chief Volume 13) \$10.00 2173

2173

Contents: Elements of the problem, by J. E. Frazer and D. E. Kerr. Kinetics of the ground problem. Tropospheric refraction. Atmospheric scattering and astronomical refraction. Theory of propagation in a horizontally stratified atmosphere, by J. E. Frazer and others. Fundamental concepts. Geometrical optics. Physical aspect. The linear modified index problem. Methods for calculating field strength with standard refraction. The bilinear modified index problem. Nonlinear modified index problem. Meteorology of the refraction problem, by H. A. Craig and others: Humidity and refractive index. Vertically homogeneous air and adiabatic changes. Hyperrefractive and desuperrefractive of soundings. Lidity diffraction. Vertical distributions in vertical and unstable equilibria. Vertical distributions in stable equilibria. Other atmospheric processes and their effect on all paths. Experiments to measure temperature and humidity in the lower atmosphere. Meteorological constants. Experimental studies of refraction, by P. J. Robertson and others: One-way transmission. Two-way transmission. Communication over land. Radio measurements. From variables to field strength. Angle measurements of short optical paths. Reflection from the earth's surface, by D. E. Kerr and others: Theory of reflection. The refractive coefficient of the ocean. Reflection coefficient of land. Errors in radar height measurements. Radar targets and echoes, by D. E. Kerr and H. Goldstein. The radar cross section of isolated targets. Complex targets. Sea echo. The origin of sea fluctuations. The fluctuations of clutter echoes. Meteorological aspects, by H. Goldstein and others: Origin of the echo. The intensity of meteorological echoes. General properties of precipitation echoes. Prediction echo properties and meteorological structure. Atmospheric interaction, by J. H. Van Vleck and others: Properties of the complex dielectric constant. Theory of absorption in meteorological gases. Measurement of atmospheric structure. Application by radar wind velocity. Appendix, by D. E. Kerr and others: Application of the Lommel reciprocity theorem to scattering. Coherent and incoherent scattering from random ensembles of scatterers. X-ray index. Subject index.

Note. A cooperative volume by teams of scientists participated with other research during World War II. It summarizes knowledge gained in many laboratories in the United States of America and abroad during this period. The authors state in the Preface, dated July 1947 "There has been no attempt to produce either a handbook or treatise, but only a collection of papers on rapidly changing subjects. An attempt has been made to survey the relevant literature at the time that was available and summarize it in such a way as to be feasible." For descriptions of related volumes in the series see the following sources: Library of Congress, Medical and Agricultural Books in the United States of America published 1947-1948 and of the book in hand.

KING DONALD D

Measurements at centimeter wavelength.
New York: D. Van Nostrand Company Inc.,
1952. 327 p. illus. 24 cm. (Van Nostrand co-
ries in communications engineering, Herbert
F. Reich, editor) \$5.50 2174

2174

Contents: Introduction. Transmission of power at constant
voltage. Measurement of constant-voltage power. Frequency
voltage and waveform measurement. Generators. Inverters.
Measurement. Radiation measurements. Glossary of symbols. In-
dex. Author index.

Note. Measurements of power and frequency in low-frequency ranges from about three meters to about ten millimeters are the subject of this book. Both the theory and technique of such measurements are covered. The importance of low-frequency measurements is stressed. But considerable part of the space is devoted to techniques of measurements. Included are the discussions on characteristics of instruments and their uses, errors and limitations of the application of each method. The author is Assistant Professor at the Radiation Laboratory of the Johns Hopkins University. This book is of interest to graduate communications engineers and scientists already at work in communication research and design.

LAWSON, JAMES LLEWELLYN, AND GEORGE E. UHLENBECK, editors

Threshold signals. Office of Scientific Research and Development, National Defense Research Committee. New York McGraw-Hill Book Company Inc. 1950 388 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series. Board of editors Louis N Ridenour editor-in-chief, and others) \$5.00 2175

Contents: Introduction. Types of signals and methods for their reception. Theoretical introduction. Basic origins of internal noise. Receiver noise. External noise sources—chatter. The detectability of signals in the presence of noise. Pulse trains in internal noise. Pulse trains in internal noise—other methods of presentation. Modulated pulse trains. Threshold pulsed signals in chatter. Threshold signals in electronic interference. Threshold considerations for amplitude-modulated and frequency-modulated continuous wave systems. Index.

Note: A treatise on the problems of detecting signals in the presence of electrical noise and electronic noise. As one of the books in the series, it is based largely on work done at MIT Radiation Laboratory during World War II. After an introductory discussion of types of signals and of kinds of noise, the various aspects of the problem are discussed from both the theoretical and experimental standpoints. Many of the illustrations are drawn from investigations of noise problems in radar. The book is addressed to graduate electrical and communications engineers.

LE CORREILLER PHILIPPE

Matrix analysis of electric networks. Cambridge, Mass. Harvard University Press [and] New York John Wiley & Sons Inc. 1950 112 p. 22 cm. (Harvard monographs in applied science. No. 1.) \$3.00. 2176

Contents: Preliminary concepts. The node method of Koss. The node pair method. The branch method. Index.

Note: In this short book the methods of analysis of connected electrical machinery originated by Gabriel Koss and expanded to his application of them to the analysis of reacting electrical machinery (*Electricity* 1935 2. ed., 1941) and in his *Transfer analysis of networks* (New York, 1949) are presented in simpler form for the benefit of communications engineers. It is not specifically in mathematics. The presentation relies upon matrix algebra and topology and the essential concepts of these two areas of mathematics are presented in the first chapter. In the subsequent chapters the author shows how to apply the techniques of matrix algebra and topology to the analysis of the fundamental types of elementary electrical networks.

MARCUVITZ, NATHAN, editor

Waveguide handbook. New York McGraw Hill Book Company Inc., 1951. 428 p. illus. 24 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N Ridenour editor-in-chief. Vol. 10) \$7.50 2177

Contents: Transmission lines. Transmission-line model. Microwave networks. Two-terminal structures. Two-terminal structures. Short-circuited structures. Rectangular structures. Composite structures. Appendix. Glossary. Index.

Note: A systematic presentation of microwave field problems viewed as problems in microwave networks. As are the other volumes in the series, this one is based on lectures given during one of the M.I.T. Radiation Laboratory courses during the years 1943-44. It is designed for graduate communications engineers working in the microwave field. The basic general material is presented in the first three chapters. The remaining chapters are devoted to specific varieties of microwave radiating structures. In these chapters much useful field material is presented graphically.

MARTIN, THOMAS LYLE, JR.

Ultrahigh frequency engineering. New York Prentice-Hall, Inc., 1950 456 p. illus. 22 cm. \$8.00 2178

Contents: Wave-shaping circuits. Trigger circuits. Amplification for UHF systems. Introduction to transmission lines. UHF applications of transmission lines. Parallel plate waveguide. Waveguide and cavity resonators. UHF triodes and oscillators. Klystrons. Magnetron oscillators. Propagation of radio waves. Appendixes. Fundamental constants. Radiation of the cylindrical waveguide. Index.

Note: As the chapter label indicates, this book is devoted mainly to the circuits and other components of UHF systems in general. Radar, television, and other complete circuits in which UHF radiation is applied to specific uses are not considered. The book is outstanding for clear and rather full discussions of basic circuits and circuit elements. The author has assumed that his readers will be familiar with basic radio and engineering mathematics. The work is particularly useful for upperclass college students majoring in physics or electrical engineering. It is suitable also for college graduates who possess the requisite basic scientific education and desire an introduction to this field for independent reading.

MOSKOWITZ, SIDNEY, AND JOSEPH RACKER

Pulse techniques. New York Prentice-Hall, Inc., 1951 300 p. illus. 23 cm. (Prentice-Hall electrical engineering series W L. Everitt, editor) \$6.65 2179

Contents: Characteristics of pulses. Transient response of linear networks. Design of pulse networks. Linear pulse amplifiers. Pulse-shaping and shaping circuits. Pulse generators. Pulse measurement and instruments. Pulse communication systems. Aerial transmission side. Appendixes. Review of complex-variable theory. Pulse response of cascaded wave filters. Pulse response of transmission lines. Index.

Note: The term "pulse techniques" designates systems of radio communication in which signals are transmitted in pulses or "bursts" of radiated energy rather than in modulated continuous waves. Continuous waves are the basis of standard radio, but pulses, the basis of radar, are leading more and more into other systems of communication, such as television and the microwave radio relay in telegraph and telephone circuits. This short book is designed as an introduction to the field for readers possessing knowledge of basic communication engineering and standard radio. The main viewpoint is practical, in other words, the purpose is to prepare the reader for work in the field.

MUCHMORE, ROBERT B

Essentials of microwaves. New York John Wiley & Sons, Inc., 1952 236 p. illus. 23 cm. \$4.50. 2180

Contents: The electromagnetic laws of Maxwell. Characteristics of waves and wave guides. Cavity resonators and filters. Characteristics of waves and antennas. Typical microwave antennas. Waves and electron vacuum self-excited tubes. Klystrons. Traveling-wave and multi-beam tubes. Magnetrons. Electrical noise. Microwave radio systems: relays. Radar. Applications of microwave in physical research. Microwave measurements. Appendixes. Index.

Note: A simple, straightforward introduction. Some familiarity with radio terminology is necessary in order to understand it, but it is not addressed to readers who are studying the field because they plan to enter professionally. Instead, it is an ideal book for such readers as electrical engineers specializing in, say, power house design, who desire to know something about microwaves for the sake of rounding out their store of information. The author emphasizes the fundamental simplicity of the subject and has covered it in lucid style and more than 300 clearly drawn illustrations.

SLATER, JOHN CLARKE

Microwave electronics. New York D Van Nostrand Company Inc., 1950 406 p. 24 cm. (The Bell Telephone Laboratories series) \$6.50 2181

Contents: The wave guide with perfectly reflecting walls. Reflection and standing waves. Power and energy relations. The theory of resonant cavities. The resonant cavity with one output. The cavity with two outputs. The cavity with several outputs, and coupled cavities. The periodically loaded wave guide. Fundamental principles of electronic devices. The klystron. The beam accelerator. The traveling wave amplifier. The negative resistor. The cyclotron and synchrotron. Appendixes: Properties of hollow transmission lines. Open velocity. Bibliography. Index.

Note: An essential book for engineers at work in the field of radar design and physicists concerned with the phenomena of electromagnetic waves in the millimeter and centimeter ranges. Mainly it is a mathematical treatment based on the theory of orthogonal func-

tion. This mathematical method is developed so that it can be applied generally to the prediction of microwave behavior. The author was one of the pioneer researchers during World War I. He worked at the Bell Telephone Laboratories and the Radiation Laboratory at Massachusetts Institute of Technology on radar design and particularly on the magnetron. The book is a development of this work, and it contains not only the author's contributions but those made by others to the mathematical solution of microwave problems.

SOUTHWORTH, GEORGE CLARK

Principles and applications of waveguide transmission. New York D Van Nostrand Company Inc., 1950 689 p illus. 23 cm. (The Bell Telephone Laboratories series) \$9.50. 2182

Contents. Introduction. Principles of networks. Principles of transmission lines. The nature of electromagnetic waves. Waveguide theory. A descriptive account of electrical transmission. Waveguide transmission lines. Waveguide losses (attenuation). Waveguide components. Waveguide radiators. Electronic devices for waveguide use. Modulation and demodulation by waveguide methods. Appendixes. Tables frequently used in waveguide calculations. RMA standard rectangular waveguides. Properties of certain dielectrics. References. Index.

Note: A substantial treatment of the current knowledge and practice of waveguides in the transmission of microwave radiation. The author is on the staff of Bell Telephone Laboratories, is one of the outstanding investigators of waveguide transmission. The first five chapters deal with the fundamental and historical aspects. Rather advanced mathematics is used in them, and they are addressed primarily to graduate students and practicing engineers. Although there are numerous graphs in the remaining chapters, these chapters are by comparison descriptive in nature and can be understood by readers who do not possess the mathematical training acquired by the reading of the first part of the book. There is 10-page list of references.

WARE, LAWRENCE ALBERT AND HENRY R. REED

Communication circuits. Third edition. New York John Wiley & Sons, Inc., 1949 403 p. illus. 24 cm. \$5.50. 2184

Contents. Transmission-line parameters. Networks, T and S parameters. Network theorems. The use of compound of finite sections. The line having uniformly distributed parameters. Open-circuit and short-circuit losses. Reflection losses. The power-transmission line—efficiency. Constant K filters. M -derived and composite filters. Impedance transformation. Ultrahigh frequency transmission is waveguide—general. Ultrahigh frequency waveguide wave guides. Ultrahigh frequency cylindrical wave guides. Electromagnetic theory of coaxial lines. Transmission-line experiments. Appendix. Index.

Note: (MIL) Is this volume text for electrical engineering students the basic principles of communication transmission lines for all frequencies are presented, but the ultrahigh frequencies are discussed in the greatest detail. The treatment assumes knowledge of calculus and elementary $a-c$ theory. More advanced mathematics which may be required is included in the appendix. In this edition the chapters on transmission-line parameters and impedance matching have been rewritten and enlarged. The treatment of attenuation is more general and is now based on Feynman's theorem; and the number of review problems given at the end of each chapter has been increased.

SOUND RECORDING

FAYNE, JOHN GEORGE, AND HALLEY WOLFE

Elements of sound recording. New York John Wiley & Sons, Inc. 1949 686 p. 24 cm. \$9.50. 2185

Contents (developed). Nature of sound, sound waves, and their perception. Electrical, acoustical, and mechanical circuits. Microphones and their uses. Vacuum tubes. Audio amplifiers. Network theory. Attenuation. Filters. Equalizers. Compression and limiting. Recording systems. Principles of disk recording. Fundamental principles of variable-density recording. Variable-density modulators. Principles of variable-area recording. Variable-area modulators. Micro-reduction methods. Flatter and its measurement. Film and

disk drive mechanisms. Film laboratory processes. Recording. 35-mm motion picture reproducing systems. 16-mm sound film systems. Magnetic recording. Loudspeaker systems. Acoustics of stages and theaters. Stereophonic recording. Index.

Note: A comprehensive presentation of the principles and basic techniques of the recording of sound. It has its origin in material collected for presentation to students at the University of California at Los Angeles; but in its present form it is intended for both students and practicing sound engineers. Although considerable space is given over to description of equipment, especially equipment used in commercial studios, the work is not in any sense a descriptive treatment. The author's method is exemplified by the chapter on magnetic recording where the theory is explained, the two chief methods of magnetic recording are described, and the characteristics of the chief bias and erase methods are discussed from the engineering standpoint. Wire-recording systems and tape-recording systems are then discussed chiefly from the same viewpoint, but there is only one illustration of recorder and no detailed description is given of it. The chapters are supplemented by short lists of references. Each chapter is associated with the Western Electric Company.

READ, OLIVER

The recording and reproduction of sound. Revised and enlarged second edition. Indianapolis Howard W Sams & Co., Inc., 1951 790 p. illus. 24 cm. \$7.95 2186

Contents. Behavior of sound waves. History of acoustical recording. Basic recording methods. Lateral disk recording. Disc recording. Microgroove recording. Recording (cutting) μ film. The disc. Disc reproduction (pickup). Their arms and reproducing μ film. Magnetic (tape and wire) recording. Magnetic tape recorder. Magnetic film recorder. Microphones. Loudspeakers and receivers. Disked networks and filters. Tone control (equalizers). Attenuators and noise amplification. Frequency-modulation. Music systems. PA sound systems. Acoustics. Tones (AM FM). Speech input systems. Complete recording systems. Record construction (pressing). Audio amplifier units. Recording and reproducing standards. Appendix. Index.

Note: A comprehensive and useful manual about the theory, construction, and characteristics of present-day sound recording and reproducing apparatus. The treatment is technical, and the book is adapted to the needs of most technical personnel in the industries concerned with sound recording and reproduction. It is addressed particularly to sound engineers and to those who are responsible for the setting up and maintaining of sound apparatus. The first edition appeared in 1949. This edition contains about twice as much matter and is much improved in content and organization. The index is edited by Radio and television news and Radio-electronic equipment.

ANTENNAS

BAILEY ARNOLD B

TV and other receiving antennas (theory and practice) New York John F Rider Publisher Inc., 1950. 606 p. illus. 22 cm. \$6.90. 2187

Contents: Review of definitions and terminology. The television signal and its bandwidth. Problems of television reception. The electromagnetic wave. The radio path. The theory of dipole antennas. The center-fed vertically half-wave antenna. Comparison of vertically half-wave antennas. Parabolic-dish antennas. Electrically polarized antennas and special types. Practical aspects of TV receiving antennas. Review questions. Index.

Note: A treatise on practical antenna engineering. The author has had long experience in antenna design which is reflected in the book. Nevertheless, the work is designed not so much for specialists in antenna theory as for television installers and others who desire relatively full treatment from the practical viewpoint. The characteristics of all of the common types of antennas that are useful in TV and other communications fields employing ultra-high frequency radiation are described fully. Examples of special points, such as mounting of antennas by other active components, are discussed. A special feature is the inclusion of numerous one-page data sheets for specific varieties of antennas.

KRAUS JOHN DANIEL

Antennas. New York McGraw Hill Book Company Inc. 1950 553 p. illus. 24 cm. (McGraw Hill electrical and electronic engi-

neering series F. E. Terman, consulting editor) \$8.50. 2188

Contents: Introduction. Point sources. The antenna as an aperture. Arrays of point sources. The electric dipole and thin linear antennas. The loop antenna. The helical antenna. The Monopole antenna and its impedance. The cylindrical antenna: its current distribution and impedance. Self and mutual impedances. Arrays of linear antennas. Reflector-type antennas. Slot, horn, and complementary antennas. Loop, leak wire, and other types of antennas. Antenna measurements. Books for reference. Appendix. Index.

Note: A systematic treatment of antenna theory written in the form of a textbook for engineering students. Approach is with elementary electromagnetic theory, the fundamentals of transmission lines and wave guides, and with mathematics through vector analysis is covered for understanding the treatment. All the theories of antennas which are of current interest are considered. Besides its intended use, the book should prove useful to graduate electrical engineers whose formal education did not include course in antenna theory.

LAPORTE, EDMUND A.

Radio antenna engineering New York McGraw-Hill Book Company Inc., 1952 563 p. illus. 24 cm. \$10.00. 2189

Contents: Low-frequency antennas. Medium-frequency broadcast antennas. High-frequency antennas. Radio-frequency transmission lines. Geometrical synthesis of impedance-matching networks. Logarithmic potential theory. Appendixes. Index.

Note: A textbook designed for radio engineers who are not specialists in antenna theory but who must nevertheless design (and sometimes build) radio antennas. It is limited to antennas made of wire, metal, and covers for frequencies up to about 30 megacycles and to transmission lines used in the feeding of signals in such antennas. Major aspects, such as the calculation of radiation pattern and radiation resistance, and the design of circuit matching systems, are both covered. Geometrical methods are illustrated for the solution of many problems. The descriptive picture, number of photographs of constructive details. Selected bibliography are included with the chapters, and in the appendix there is general bibliography for the convenience of engineers in need of more detailed or more detailed treatments of specific aspects. The author is Chief Engineer of the International Division of Radio Corporation of America.

SCHILKUNOFF, SERGI ALEXANDER

Advanced antenna theory New York John Wiley & Sons, Inc., 1952 216 p. 24 cm. (Applied mathematics series edited by I. S. Sokolnikoff) \$6.50 2190

Contents: Spherical waves. Mode theory of antennas. Spherical antennas. Integral equations. Cylindrical antennas. Mutual coefficients. Appendixes. Index.

Note: Contemporary antenna theory at an advanced level of research is presented in this valuable monograph. The methods of other contributors, particularly R. H. Hulse, J. A. Ruckenstein, and L. J. Chu, to the modern theory are described, but the heart of the book is the 79 page second chapter in which the author's own method of dealing with the problems of antenna antennas is covered more fully than in his previously published work. The treatment is largely mathematical and the mathematics is rigorous. The book is of primary interest to advanced graduate students and graduate engineers engaged in antenna research.

SCHILKUNOFF, SERGI ALEXANDER, AND HAROLD T. FRIIS

Antennas: theory and practice. New York John Wiley & Sons, Inc., 1952 639 p. illus. 24 cm. (Applied mathematics series, edited by I. S. Sokolnikoff) \$10.00. 2191

Contents: Physical principles of radiation. Maxwell's equations. Plane waves. Spherical waves. Directive radiation. Directivity and effective area. Waves over ground. Antenna current. Impedance, reciprocity, equivalence. Loss in antennas. Self-impedance. General theory of linear antennas. Impedance of dipole antennas. Rhombic antennas. Linear antenna systems. Horns. Slot antennas. Helical antennas. Appendixes. Index.

Note: The collaborative work is best described as treatment of basic antenna theory for engineering students who are interested

in the subject because they may eventually be concerned with practical antenna design. Construction details are not covered but the theory and mathematical computations that the practical engineer must know in order to design an antenna with specified characteristics are thoroughly covered. A knowledge of practical physics and elementary calculus is prerequisite. The authors have taken special pains to keep the mathematics in the book within the reach of undergraduate students. The discussions of most points are reasonably full and clear. The book should be valuable also to large number of engineers not enrolled in college.

SILVER, SAMUEL, editor

Microwave antenna theory and design. Of the Office of Scientific Research and Development, National Defense Research Committee. New York McGraw-Hill Book Company Inc., 1949 623 p. illus. 23 cm. (Massachusetts Institute of Technology Radiation Laboratory series, Louis N. Ridenour editor-in-chief Vol. 12) \$8.00 2192

Contents: Survey of microwave antenna design problems. Current relations, reciprocity theorems. Radiation from current distributions. Wave fronts and rays. Scattering and diffraction. Aperture illumination and antenna patterns. Microwave transmission lines. Microwave dipole antennas and feeds. Linear array antennas and feeds. Waveguide and horn feeds. Dielectric and metallic lenses. Parabolic and simple fed horn beam antennas. Shaped-horn antennas. Antenna installation problems. Antenna measurements—techniques. Antenna measurements—problems. Index.

Note: A comprehensive survey of the fundamental theories and principles of design for various types of microwave transmitting and receiving antennas. Like other books in the series, the material is based largely on work done at M.I.T. Radiation Laboratory during World War II. The treatment is technical and mathematical, and includes review of those elements of electromagnetic theory and physical optics essential to an understanding of the subject. Two chapters dealing with the methods utilized in determining antenna characteristics have been included.

RADIO

DREW CHARLES EDWARD

How to pass radio license examinations. Third edition—revised. New York John Wiley & Sons, Inc., 1952 406 p. illus. 24 cm. Stiff paper \$5.75 2193

Contents: Radio law. Radio operating practice. Radio radio-telephone. Aircraft radio-telephone. Radioteletype operating practice. Advanced radio-telephone. Appendixes: Federal Communications Commission rules governing commercial radio operators (revised to June 27, 1950). Extracts from radio law. Q code and abbreviations: Abbreviations available for all services. Miscellaneous abbreviations and signals. International Morse code. Miscellaneous: Frequency in wavelength. Symbols. Abbreviations. Greek alphabet. Some bibliography. Aircraft radio-telephone for light radio operator, by John F. Kennedy. Ship radio techniques, by John J. Carver. Bibliography.

Note: (Revised) The third edition of this work, like the first and second, presents a large number of questions and answers to help students prepare themselves for Federal Communications Commission radio examinations. The questions are numbered to correspond with the numbers in the F.C.C. study guide and many of the questions are accompanied by large, easy-to-read diagrams. New to this edition are the sections covering F.C.C. Element 7 (Aircraft radio telegraph for light radio operator) and Element 8 (Ship radio techniques). The book is intended to be used in conjunction with standard textbooks.

ENNES, HAROLD E.

Broadcast operator's handbook. Second edition. New York John F. Rider Publisher Inc., 1951 440 p. illus. 22 cm. \$5.40. 2194

Contents: (Unrevised) Part 1. Operating in the control room and studio. What you're up against. Keeping record "on the air." Studio and control room. Part 2. Operating the master control. Part

3. Operating outside the studio. Remote control problems. Remote musical pickups. Kyr-vision pickups and mobile transmitters. Field facilities. Part 4. Operating the transmitter. Operator's duties. Programs are entertainment. Measuring noise and distortion. Part 5. W to off the air. Emergency shutdowns. Inversion maintenance instructions. Part 6. Technically speaking: Control room and studio equipment. The broadcast studio. Selecting the broadcast transmitter location. Bibliography. Index.

Note: (1122) A thorough book on the work of engineers and other technical personnel concerned with the broadcasting of radio programs and the maintenance of broadcasting equipment. Such aspects of radio broadcasting as the placing of microphones, the arrangement of equipment for out-of-studio pickups, etc., are covered in detail. Forty-two pages are given to the important subject of preventive maintenance. The other is Staff Engineer for WJLB, in Indianapolis. The first edition of the book was published in 1947. The present edition is 175 pages longer and contains much new material.

FISCHER, BERNHARD

Radio and television mathematics a handbook of problems and solutions. New York: The Macmillan Company 1949 484 p. illus. 21 cm. \$6.75 2195

Contents: Section 1. Problems and solutions: Circuit components. Direct-current circuits. Alternating current circuits. Vacuum tube fundamentals. Amplifiers. Oscillators. Transmitters. Receivers. Power supplies. Antennas and transmission lines. Television measurements. Industrial and control circuits. Section 2. Problems for further practice. Section 3. Some important tools for radio mathematics. Powers of 10. Introduction to the slide rule. The logarithmic scale. Section 4. Formulas and tables: Electronic formulas. Tables. Appendix. Reference list. Answers to Section 2. General index. Mathematical index.

Note: As the chapter titles indicate, the scope of this book is more advanced than some of the texts which have been written on the mathematics used in radio and television. It has been developed from material used in classes given by the author and is designed primarily as a textbook for use in specialized classes. However, it is invaluable suitable for self-instruction, especially for advanced students who have had course in algebra. Much of the material is presented in the form of worked solutions of typical problems. Several hundred practice problems for the student are given in the second section of the book. An extended section of useful formulas and tables at the end of the book has some reference value.

GHIRARDI ALFRED A.

Radio and television receiver circuitry and operation by Alfred A. Ghirardi assisted by J. Richard Johnson New York: Rinehart Books Inc. 1951 669 p. illus. 24 cm. \$6.00 2196

Contents: Amplitude modulation and AM signals. Frequency modulation and FM signals. RF amplifiers and TRF receivers. AM superheterodyne receivers. AM detector and AVC systems. FM receivers. Push-button tuning and APC systems. A-F amplifiers. Loudspeakers. Radio receiver power-supply systems. TV principles and the TV receiver. Recovering picture signals. Home recorders. Phase pickups and record players. Automatic record changers. Mechanical construction of receivers. Glossary. Answers to odd-numbered review questions. Index.

Note: An introduction written primarily for practical students who are preparing for or are already engaged in radio and television installations and servicing. Also, there is some appeal to radio amateurs. For an introductory book the treatment is unusually full. The chief aim of the authors was apparently to support basic understanding of the principles of circuit elements and typical complete circuits. Full circuit diagrams of specific models and models of receivers are, of course, not included. The first named author has written the widely used Radio physics course and other books.

GHIRARDI ALFRED A. AND J. RICHARD JOHNSON

Radio and television receiver troubleshooting and repair New York: Rinehart Books Inc. 1952 822 p. illus. 24 cm. \$6.75 2197

Contents (abridged): Receiver components and their function. The importance of systematic troubleshooting procedure. Basic troubleshooting methods. Practical direct approach troubleshooting. Special troubleshooting problems in c-d-c and thermionic portable receivers. Special troubleshooting problems in battery-powered receivers. Servicing communications receivers. Troubleshooting television receivers. Taking receiver performance data. Realigning AM receivers. Realigning FM receivers. Realigning TV receivers. Replacement of defective sections. Replacement and repair of RF and IF sections. Replacement and repair of defective power, A-F and detection-frequency sections and transformers. Replacement and repair of defective capacitors. Servicing defective transformer mechanisms. Tuning, replacement, and repair of loudspeakers. Repair and replacement of record-playing equipment. Servicing home recorders. Appendix. Index.

Note: (3843) A comprehensive textbook for use in vocational courses offered to men who are preparing to become radio and television servicemen, and for men already in this service industry who wish to extend their knowledge by home study. The discussion is practical and detailed. Many operations are described step by step. No mathematics is used but the writing is in the terminology of the industry. The book replaces the earlier author popular Modern radio servicing.

HENNEY, KEITH, editor in-chief

Radio engineering handbook. Fourth edition. New York: McGraw Hill Book Company Inc., 1950. 1197 p. illus. 23 cm. \$10.00. 2193

Contents: Radio of radio communications, by R. Deley. Electronics, by John Martin. Inductance, by F. G. Weber. Magnetic materials, by R. L. Randall. Capacitors, by R. L. Hall. Combined circuits of L, C and R, by W. F. Loomis. Electrical measurements, by R. F. Field and J. H. Miller. Power-supply systems, by R. C. Hitchcock. Audio-frequency amplifiers, by G. Koshen. Radio-frequency amplifiers, by R. E. Glasgow. Vacuum-tube oscillators, by R. J. Swisher and D. C. Field. Modulators and detectors, by L. F. Curtis. Radio-wave propagation, by D. Patrick. Electron tubes, by G. D. Gurnell. Antennas, by E. A. Laport. Waveguides and cavity resonators, by T. Murnan. Load impedances and noise sources, by R. E. Keweenaw. Rectifying systems, by C. K. Dunn. Radio broadcasting, by C. G. Detrick. Television, by D. G. Fish. Radio standards, by R. E. Mathers. Radio aids to aviation, by H. Dawson. Code transmission and reception, by J. B. Moore and D. E. Koshen. Index.

Note: (3344) A standard reference book in which every type of exposition and tabulated engineering data are contained. It is suitable for advanced students of radio engineering, advanced radio amateurs and, of course, practicing radio engineers. In the present edition the type has been completely reset and the format altered to give larger page size. Enough material has been added to occupy 200 more pages. The chapter on wave-guides was added that was not included in the third edition. The index of the other chapters are the same or changed slightly and annotations show that the contents of individual chapters are usually set.

HENNEY KEITH AND GLEN A. RICHARDSON

Principles of radio. Sixth edition. New York: John Wiley & Sons, Inc., 1952. 655 p. illus. 22 cm. \$5.50. 2199

Contents: Fundamentals. Direct-current circuits. Electrical units and measurements. Magnetism and electrostatics. Inductance. Capacitance. Properties of alternating-current circuits. Resonance. Properties of coils and condensers. Vacuum tubes. The tube as an amplifier. Rectifiers and power supply apparatus. Audio amplifiers. Detection of amplitude-modulation signals. Amplitude-modulation receiver systems. Oscillators. Amplitude-modulation transmitters. Transmitters. Modulation and detection. Ultra-high frequency phenomena. Electronic instruments. Transients and wave shaping circuits. Television. Index. Index.

Note: (18237) A popular self-instruction and vocational school text since the appearance of the first edition in 1924. Only people with mathematics is used and the discussions of mathematical topics are unpretentiously full. Numerous worked examples illustrate the principles. Few experiments requiring minimum of equipment are included. The present edition represents an extensive revision with many pages of new material and many new illustrations.

HORNUNG, J. L., and ALEXANDER A. MC KENZIE

Radio operating questions and answers. Eleventh edition. New York: McGraw Hill Book Company, Inc. 1952. 557 p. illus. 21 cm. \$6.00. 2200

Contents (abridged): Radio laws, regulations, and operating practices. General theory transmitters, receivers. Power supplies, induction, motors, motor-generators, indicating instruments, special instruments. Appendix. Index to questions and answers. Index of diagrams and illustrations. Index of subjects.

Note: (1944) Since its first appearance in 1931 this book has been widely used as a review of radio theory and practice by persons studying for government examinations for radio operator licenses. Its wide scope together with the detailed indexes makes it one of the best reference books for both amateur and professional operators and engineers. In preparing this edition the material was extensively rearranged, numerous revisions in the questions and answers were made, new illustrations were drawn, and the text was reset in new typography.

KIVER, MILTON SOL

F M simplified. Second edition. New York: D Van Nostrand Company Inc. 1951. 453 p. illus. 21 cm. \$6.50. 2201

Contents: Introduction to frequency modulation. F M basic phase modulation. F M and its variations. Frequency, reception, and transmission of F M signals. R F tests for F M receivers. High frequency amplifiers. LF amplifiers. Detectors. F M detectors. Audio amplifiers and high fidelity F M receiver alignment. Commercial F M receivers. Servicing F M receivers. Commercial F M transmitters. Index.

Note: (1944) A standard text for radio servicemen and anyone who is familiar with the principles and terminology of amplitude modulation and wish to extend their knowledge to F M. It is written so that it may be used in spaced classes at the individual level or as a self-instruction manual. The advantages of frequency modulation are discussed and the similarities and differences between F M and A M systems are covered. F M circuit elements and circuits are described in sufficient detail to enable the reader to understand their functions experimentally and to make wiring diagrams, typical of the circuits of F M equipment produced for the U.S.A. market, are included. The first edition was published in 1947. In this edition the book is approximately 100 pages longer and contains considerable material that did not appear in the 1947 edition.

MACLAURIN WILLIAM RUPERT

Invention & innovation in the radio industry with the technical assistance of R. Joyce Harman with a foreword by Karl T. Compton. New York: The Macmillan Company. 1949. 304 p. illus. 22 cm. (Massachusetts Institute of Technology Studies of innovation) \$3.95. 2202

Contents: The scientific discovery of radio. The impact of new scientific advances on established industry. The process of invention and innovation—historical and the future. The radio telegraph 1895-1900—Farraday, De Forest and the early wireless telephony. The role of the large electrical firms in electronic 1913-1921. The struggle over patents 1921-1923. The phenomenal gains of competition 1923-1941. The state of industrial research—Radio 1900-1941—Telephony, Government regulation and technical progress—F M and television 1900-1941. Conclusions. Appendixes: The elements of modern radio communications. Radio patent litigation. Bibliography. Index.

Note: Essentially history of the radio and television industry from an economic/technical point of view. This book portrays the complicated interrelationships of basic invention, patents and patent litigation, and the policies and organizational activities of large corporations which have appeared in the development of this industry especially in the United States of America. Technical details of various radio circuits, and related apparatus are described but the main interest is in the influence of the important inventions and patents. Thus the book covers an aspect of technical development which is often ignored in writing the history of invention. It is heavily documented with references to both published and unpublished material.

THE RADIO AMATEUR'S HANDBOOK. Twenty ninth edition. West Hartford, Conn. The American Radio Relay League, 1952. 549 p. illus. 24 cm. \$3.00. 2203

Contents: Amateur calls. Electrical laws and circuits. Vacuum-tube principles. High-frequency communications. High-frequency currents. High-frequency transmitters. Power supplies. Keying and break-in. Speech amplifiers and modulators. Amplitude modulation. Frequency and phase modulation. Reduced-carrier and step-modulated transmitting techniques. Transmitters West. Antennas. About V.H.F. V.H.F. receivers. V.H.F. transmitters. V.H.F. antennas. U.H.F. and microwave communications. Mobile equipment. Measuring equipment. Assembly of stations. RCI and TVI. Construction practices. Operating stations. Miscellaneous data. Vacuum-tube data. Catalog section. Index.

Note: (1952) A long established reference work written primarily for the amateur radio enthusiast. Material on theory and design fundamentals is included, but the main emphasis is on functions, characteristics, and details of apparatus. In this edition special attention is given to problems of radio amateur interference with television transmitters; the information regarding new equipment has been brought up to date; and chapter on amplitude modulation has been added. Such useful references as names of circuit diagrams, symbols, and tube characteristics have been retained. An advertising or catalogue section runs to 143 pages.

RIDER JOHN FRANCIS, and SEYMOUR D USLAN

F M transmission and reception. Second edition. New York: John F Rider Publisher Inc. 1950. 426 p. illus. 22 cm. \$4.95. 2204

Contents: Part I Fundamental considerations. Frequency modulation. Principles of F M transmission. Transmission of teletype. The transmission of F M signals. Part II Receiving stations. The F M receiver. Alignment of F M receivers. Servicing F M receivers. F M in television receivers. Appendix. Bibliography. Index.

Note: (1947) A practical introduction for radio students, radio engineers, and other persons who already have knowledge of amplitude-modulated radio and of the technical terminology of radio. It is suitable for use in spaced classes in trade schools and also as a self-instruction text for persons studying the subject at home. The text of the present edition is the same as the first, except that the chapter on F M in television receivers has been added. Also the review questions that were added in the sixth printing of the first edition have been retained.

SHEINGOLD ABRAHAM

Fundamentals of radio communications. New York: D Van Nostrand Company Inc. 1951. 442 p. illus. 24 cm. (The Van Nostrand series in communications engineering edited by Herbert J Reich) \$5.25. 2205

Contents: General principles of radio communications. Electric circuit fundamentals. Basic radio circuit components. Radio circuits. Transfer of power in radio systems. Generation and propagation of radio waves. Fundamental principles of electron tubes. Operational characteristics of electron tubes. Amplification of small alternating voltages. Amplification of large alternating voltages. Rectifiers. Rectifier-d-c sources. Radio-wave receivers. Amplitude modulation—A M transmission. Detection—reception of A M signals. Frequency conversion—the superheterodyne receiver. Frequency modulation. Radio pulse circuits. Ultra-high-frequency techniques. Image-transmission systems. Special communication techniques. Radio and radio navigation systems. Index.

Note: Second edition written by a member of the faculty of the United States Naval Postgraduate School. It is suitable for students who have an advanced technical interest in the field but lack knowledge of mathematics beyond college algebra. The previous edition in radio has been expanded. The book is especially good for discussions of elements such as "speech circuits which are omitted from typical introductory books on radio.

SLURBERG, MORRIS, and WILLIAM OSTERHELD

Essentials of electricity for radio and television. Second edition. New York: McGraw-

Hill Book Company, Inc. 1950 533 p. illus.
24 cm. \$6.00 2206

Contents: Communications. Basic theory of electricity. Batteries. Electric circuits. Magnetism. Motors. Electrical power apparatus. Inductance. Capacitance. Alternating-current circuits. Resonance. Radio electronic circuits. Appendix. Index.

Note: (1846) An introductory book designed for the instruction of men who are preparing for practical work in radio and television installation and maintenance. Although the treatment is essentially descriptive and mathematics beyond elementary algebra is not employed, it is somewhat more substantial book than the conventional practical text. The first edition was published in 1944. Important changes and additions were made in preparing this edition. Electric circuit phenomena as now explained in terms of electron flow; the scope has been extended to include the elements of television and the discussion of sound has been expanded.

STERLING GEORGE EDWARD AND ROBERT B
MONROE

The radio manual. Chapter on television by
Thomas T Goldsmith Jr. Fourth edition.
New York D Van Nostrand Company Inc.,
1950. 890 p. illus. 24 cm. \$12.00. 2207

Contents: Elementary electricity and magnetism. Motors and generators. Batteries. The electron tube. Amplifiers and oscillators. Amplitude modulation. Frequency modulation systems. Radio-frequency measurements and methods. Broadcast studio and control room. Tube facilities. Standard broadcast transmitters. FM broadcast transmitters. Television. Marine radio equipment. Lifeline radio equipment. Marine aviation radio aids. Radio wave propagation. Antennas. Radio equipment for the emergency services. Important extracts from the Communications Act of 1934 as amended by Public 77 approved May 20, 1937. F.C.C. rules and regulations. International telecommunication convention of Atlantic City and radio regulations, 1947. Index.

Note: (1841) A long-established and widely used textbook and reference manual. It is planned for the student and operator with occupational interests in the field, and is standard work for those who try and try to pass examinations so as to obtain licenses as commercial operators. However it serves also as a small encyclopedia of the field for radio amateurs and for operators. The third edition was published in 1940. For the fourth edition revisions were made to cover developments of the decade 1940-1950 and to cover the latest regulations and standards of the Federal Communications Commission. New chapters and sections have been added on such topics as radio wave propagation, antennas, and radio. Numerous schematic wiring diagrams of commercial equipment are included.

WATSON HERBERT M AND OTHERS

Understanding radio a guide to practical
operation and theory by Herbert M Watson
Herbert E. Welch and George S Eby. Illustrated
by Herbert E. Welch. Second edition.
New York McGraw Hill Book Company
Inc. 1951 716 p. illus. 24 cm. \$6.50 2208

Contents (abridged): Radio waves and wave travel. Something about electricity. Magnetism and direct-current motors. Ohm's law by simple mathematics and by meters. How to build and wire the tube circuit board. Principles of the vacuum tube. Wave-form pictures. Alternating currents in radio circuits. Resonance and tuning. Receiving sets using direct-current tubes. The dynamic loudspeakers. Power supplies. Alternating-current receiving tubes. The superheterodyne receiver. Short-wave sets. Public-address units. Power oscillators and amplifier circuits. Radio-telephone transmitters. Antennas. The very high frequencies. Frequency modulation. Looking ahead in radio. Index.

Note: One of the more successful introductions for students with no previous education in mathematics or electricity. It is the fundamentals of electricity are explained in simple terms and with the aid of numerous experiments. Very little mathematics is used, and the special terminology of radio is introduced gradually. The book is suitable for use both in organized classes with laboratory facilities and in home study. A considerable share of the sample apparatus can be constructed at home. In this edition there are many new illustrations; and material has been added on modern tubes, power supplies, public address units, etc.

TELEVISION

ANNE GEORGE E

Elements of television systems. New York
Prentice-Hall Inc. 1951 804 p. 22 cm.
\$10.35 2209

Contents: Part I. Closed television systems: Transmission of pictures. Picture standards. Scanning methods. Scanning processes. Scanning and picture reproduction. Camera tubes. Video amplification. Closed television systems. Part II. The commercial broadcasting system. Special problems of broadcasting. The optimum number of lines. Synchronization. Transmitted signals. The video transmitter. Receivers. Single-tube receivers. The video receiver. Television motion pictures. Part III. Color television systems. Appendix: Dot systems of television transmission. Problems. Index.

Note: This work by faculty member of the College of Engineering of New York University is treatment from the communication engineer's viewpoint. Though planned for the college student of engineering, it is full enough and the treatment mature enough to make the book useful to such readers as graduate engineers who have been working in radio and are preparing to switch to television. The detailed treatment of closed systems in Part I is unusual. The 64-page chapter on color television contains general discussion of the subject and specific descriptions of the leading systems. There is no systematic bibliography but there are occasional footnote references to related articles.

DEUTSCH SID

Theory and design of television receivers.
New York McGraw Hill Book Company,
Inc. 1951 536 p. illus. 24 cm. (McGraw Hill
television series Donald G Fink, consulting
editor) \$7.50. 2210

Contents: Television standards. Characteristics of amplifier and rectifier circuits. Properties of tuned coupling circuits. Antenna and R.F. sections. Video 1-4 section. Detector and automatic gain control circuits. Video amplifiers and D-C restorer. The sound section. Synchronization section. Electrostatic deflection and focusing. Magnetic deflection and focusing. Power supplies. Automatic frequency control. Interference sound reception. Direct- and projection-viewing systems. Television receiver servicing. Index.

Note: A suitable contribution to the literature of television. It is designed for advanced students and other readers primarily interested in the engineering aspects. The emphasis is on established standards, the basic circuits, and the practical design of television receivers. The mathematics essential to the engineering approach is, of course, not avoided. An understanding of standard tubes is the main prerequisite.

DOMER ROBERT B

Television principles. New York McGraw
Hill Book Company Inc., 1951 291 p. illus.
24 cm. (McGraw Hill television series, D. G.
Fink consulting editor) \$6.00. 2211

Contents: Early history of television and some fundamental principles. Electronic methods of scanning and reproduction. Antennas for frequency amplifiers. Radio transmitting apparatus. Antennas for radio transmission and reception. Radio-frequency tuned circuits and tube facilities. Intermediate-frequency amplifiers. Picture sound detection. The scanning system. Miscellaneous. Properties and tubes. Index.

Note: An introductory treatment for engineers. Since it was developed for previous acquaintance with the subject, since it was developed for an audience already familiar with calculus and the fundamentals of electrical engineering, the author has devoted the space mainly to television. Much of the text is descriptive, but mathematics that formed been avoided. The book was developed from lectures at the General Electric an after-hour educational course offered by the General Electric Company to its own employees and also to graduate engineering students in Syracuse University. There is an excellent bibliography of books.

FINK DONALD G

Television engineering. Second edition.
New York McGraw Hill Book Company
Inc. 1952 721 p. illus. 24 cm. (McGraw Hill
television series Donald G Fink, consulting
editor) \$8.75 2212

Contents: The television system. Analysis and synthesis of images. Camera and picture tubes. Scanning and synchronization methods. Transmission of the video signal. Video amplification. Carrier transmission of picture and sound signals. Color fundamentals. Color television systems. Television broadcasting equipment. Television receiving equipment. Appendix: Standards of good engineering practice. Miscellaneous. Subject index.

Notes: (1946) The chapter (this fall) to indicate the richness of this book's content. The author has included not only good discussions of such points of the subject but also full treatments of subtopics such as the principles of the kinescope pencil. His chapter on color television systems runs to 44 pages and describes in detail the modern systems that have been developed in recent years. The book is organized as a textbook for apprentice engineering students, but it is suitable also for graduate electrical engineers in need of an introductory survey of television. There are good bibliography. The first edition appeared in 1940 under the title *Principles of television engineering*. In this edition the work has been largely rewritten and contains much new material.

GROB, BERNARD

Basic television—principles and servicing. New York McGraw-Hill Book Company Inc., 1949 596 p. illus. 23 cm. (McGraw-Hill television series D G Fink, consulting editor) \$7.50. 2213

Contents: (abridged) The television system. Camera tubes. Scanning and synchronization. The composite video signal. The picture carrier signal. Frequency modulation. Television receivers. Picture tubes. Power supplies. Video amplification. Brightness control and d-c television. Video detector and automatic gain control. Separation of the synchronizing signals. Deflection generators. Deflection circuits. Picture 11 stages. The R-F tuning section. Antennas and intermediate lines. The associated sound signal and FM receiver. Receiver servicing. Television broadcasting. Color television. Light. Appendixes. List of useful data materials. Index.

Notes: A much fuller treatment of television principles and operation is given in this book than is provided by most elementary texts. The material is almost wholly descriptive, but the discussion is detailed and precise. The work is intended for use by the training of technicians, especially ones preparing for occupations connected with the installing and servicing of television receivers. A knowledge of standard radio equipment and terminology is assumed. The author is on the teaching staff of RCA Institute, Inc.

HELT, SCOTT

Practical television engineering. New York Murray Hill Books, Inc., 1950 708 p. illus. 23 cm. \$7.50. 2214

Contents: The fundamentals of picture transmission. The cathode-ray tube. The cathode-ray oscillograph. Electron tubes for image pickup. The synchronizing generator—timing, shaping and deflection circuits. The video amplifier and cathode follower. The multi-stage power supply. The television receiver. The television camera tube. The television transmitter. Television broadcasting techniques. Glossary. Index.

Notes: A detailed presentation of television transmission and reception from the engineering viewpoint. Most of the space is given to matters which are of interest to engineers associated with television broadcasting, but enough is included on television reception to make the picture complete. The work is almost entirely at practical engineering level at work for broadcasting stations, but it is suitable also for students who are preparing for such work. It is outstanding for its brief discussions of such matters as the special problems of "local receiver" and the various procedures which are essential to maintaining television transmission in peak operating condition. The useful glossary runs to thirty pages and there are plenty of illustrations and reference lists. The author is on the staff of the Research Division of Dr. Noel Laboratories, Inc.

KIVER, MILTON SOL

Television and FM receiver servicing. Second edition. New York D Van Nostrand Company Inc., 1950. 248 p. illus. 28 cm. Paper \$3.25. 2215

Contents: (abridged) The television system—operation and installation. Television receiver installation. Television test equipment. The television receiver—operation and servicing. Television receiver alignment. Intermediate television sound receivers. Trouble shooting

television receivers. FM (sound) systems. Commercial FM receiver circuits. FM receiver alignment. FM receiver servicing. Index.

Notes: (1951) A practical guide to the installation and servicing of television receivers and FM radio receivers for men experienced in the servicing of AM radio receivers. Theory and design are discussed only where needed to clarify servicing problems. The scope and arrangement of this revision remains the same as in the previous edition, but new circuits introduced since 1948 are described and analyzed. A chapter on the intermediate sound television system has also been added.

KIVER, MILTON SOL

Television simplified. Third edition. New York D Van Nostrand Company Inc., 1952 608 p. illus. 22 cm. \$6.50. 2216

Contents: The television field. VLF waves and the television antenna. Wide-band tuning circuits—RF amplifiers. The RF amplifier, mixer and IF amplifiers. Diode detectors and A.G.C. circuits. Video amplifiers. D-c resistors. Cathode-ray tubes. Synchronizing circuit fundamentals. Deflection systems. A typical television receiver—analysis and alignment. Frequency modulation. Intermediate television sound system. Servicing television receivers. Color television. Glossary. Glossary Appendix. Index.

Notes: (1951) An introductory text addressed to readers with elementary practical interests, particularly ones who are preparing for the occupation of repairing home television receivers. Basic principles and standard circuits and circuit elements are described and explained in semi-technical style. Major changes appear in this edition include: nearly added chapter on intermediate television sound systems and an expanded section on television color systems. The book is more than 150 pages longer.

LYTEL, ALLAN

TV picture projection and enlargement. New York John F Rider Publisher Inc., 1949 179 p. illus. 22 cm. \$3.30. 2217

Contents: Properties of light: reflection and refraction. Reflection and lenses. The television picture. Commercial applications of the modified Schenck projection system. Commercial systems using refractive projection. Television and motion pictures. Appendix. Bibliography. Index.

Notes: Considered from the standpoint of optical systems, there are two basic types of television receivers: those in which the viewer sees the picture directly on the legs end of the picture tube, and those in which the picture is enlarged or projected by means of lenses and mirrors so that it appears larger or in different position. This book is concerned with the optics of the systems of lenses and mirrors used in the second kind of receiver. It is written for such groups as television servicemen who must understand the principles and details of these optical systems in order to repair and adjust them. The book is rather generously illustrated with both diagrams and reproductions of photographs. It is suitable either for use in organized courses or home study.

MANDEL, MATTHEW

Mandel's television servicing. New York The Macmillan Company 1952 421 p. illus. 24 cm. \$5.50. 2218

Contents: (abridged) Television receiver fundamentals. Locating the trouble. Master index to common television troubles. The picture tube and associated components. R-F mixer-amplifier stages. The sound section. Video I-F video amplifiers, video detector, and D-C converter. The sweep generator stages. The vertical sweep system. The horizontal sweep system. The power supplies. Repairing and improving antenna systems. Projection television. Test equipment and color receiver sections. The oscilloscope as a modern servicing tool. The sweep generator. The master and other servicing equipment. Color television servicing. Appendix. Index.

Notes: A compactly written, practical book for use in the trade of installing and servicing television receivers. Its chief intended use is as a textbook in trade school classes, but it contains enough specific information on everyday servicing to make it useful to men already at work in the industry. The references type of use is illustrated by the "Trouble Index" on pages 41 to 53. Most of the book is taken up with the descriptions of systems and other elements of television receivers and with testing and servicing operations. The author is associated with the Technical Institute of Temple University.

RADAR

BELL TELEPHONE LABORATORIES

Radar systems and components. By members of the technical staff of Bell Telephone Laboratories. With an introduction by Mervin J. Kelly New York: D. Van Nostrand Company, 1952. 1042 p. illus. 23 cm. (The Bell Telephone Laboratories series) \$8.50. 2219

Contents (abridged): Early fire-control radars for naval vessels. The magnetron as a generator of centimeter waves: Part 1—The magnetron oscillator. Part 2—Developmental work on the magnetron oscillator at the Bell Telephone Laboratories, 1940-1945. High-vacuum cathode-ray tube modulator tubes. Cathode-ray tubes for radar. Spark gap switches for radar. The discharge-transmission system. The radar receiver. Radar oscillators. Development of silicon crystal oscillators for microwave radar receivers. Characteristics of vacuum tubes for radar IF amplifiers. Radar antennas. Techniques and facilities for microwave radar testing. High Q resonant cavities for microwave testing. End plate and side wall currents in circular cylindrical cavity resonators. Some results on cylindrical cavity resonators. Index.

Note: The Bell Telephone Laboratories, Inc. played a large part in the development and manufacturing of radar and radar devices for use by the United States of America and its allies during World War II. Although this book is not based entirely upon the work of the Bell Telephone Laboratories and its subsidiary the Western Electric Co., all of the authors are or were associated with the BTL. The various chapters are carefully separate essays devoted to the history, description, and applications of particular radar components or systems. Electromagnetic fundamentals and component characteristics are discussed in detail at the level of graduate students and graduate engineers in the technical field. Much of the material included is of practical use in the design of radar components and systems. Each of the chapters is accompanied by a bibliography.

LUCK, DAVID G. C.

Frequency modulated radar. New York: McGraw-Hill Book Company Inc., 1949. 466 p. illus. 24 cm. \$6.50. 2220

Contents: Part 1, Principles and techniques: Introduction. Principles of operation. Radio apparatus used in f-m radar systems. Apparatus for stimulation of f-m radar data. Detection of aircraft and missiles. Part 2, Applications: Single target f-m radar systems. Accuracy criteria and methods of calibration. Developmental single-target systems. Multiple target systems. Index.

Note: Conventional radar is based on the principle of pulsed signals. However, considerable amount of research has been done on the use of frequency-modulated signals in radar. The present book is essentially a comprehensive report of this work. It was prepared originally as a report to the Navy under government contract. It is addressed to graduate engineers who are familiar with the terminology of radar and of pulsed radar.

NATIONAL DEFENSE RESEARCH COMMITTEE

Radio wave propagation. Consolidated summary technical report of the Committee on Propagation of the National Defense Research Committee. Charles R. Burrows, chair-

man. Stephen S. Attwood, editor. New York: Academic Press Inc., 1949. 548 p. illus. 28 cm. \$12.00. 2221

Contents (abridged): Volume 1, Technical survey—Part 1, Summary: Standard propagation. Meteorological measurements. Transmission experiments. Scattering and absorption of microwaves. Part 2, Conference reports on standard propagation: A graphical method for the determination of standard coverage charts. Theoretical analysis of errors in radar due to atmospheric refraction. Siting and coverage of ground stations. Part 3, Conference reports on non-standard propagation: Tropospheric propagation and radio meteorology. Ionospheric ionization in surface duct. The solution of the propagation equation in terms of elliptical functions. Perturbation theory for an exponential MUF curve in ionospheric propagation. First order estimation of radar ranges over the open ocean. Volume II, Radio wave propagation experiments—Part 1, Meteorology. Part 2, Miscellaneous experiments: Reflection coefficients. Deflection constant, absorption and scattering. Echoes and targets. Asymptotic standard measurements. Volume III, The propagation of radio waves through the standard atmosphere. Antennas. Factors influencing transmission. Calculation of radio paths. Coverage diagrams. Diffraction by terrain. Targets. Glossary. Bibliography.

Note: As the subtitle indicates, this volume brings together in condensed form the three-volume report prepared by the Committee on Propagation of the National Defense Research Committee, of which only 250 copies were printed. The report is intended as a source of problems relating to radio wave propagation in the atmosphere at frequencies above thirty megacycles, and is written for college-graduate radio and electrical engineers. The fundamental principles of propagation, the effect of earth and atmosphere characteristics on radio waves, and the properties of antenna systems are discussed in detail. It will thus be of particular value to engineers responsible for designing, locating, and operating radar systems and communications equipment. The appendix includes an extensive bibliography of technical reports prepared by various governmental and civilian organizations.

REINTJES, J. FRANCIS, AND GEOFFREY T. COATE

Principles of radar. By members of the staff of the Radar School, Massachusetts Institute of Technology. Third edition. New York: McGraw-Hill Book Company Inc., 1952. 985 p. illus. 24 cm. \$7.75. 2222

Contents: Pulsed radar. Timing circuits. Modulators. Indicators. Synthesizers and wavegenerators. Receivers. Radio-frequency transmission lines. Waveguides. Resonant lines and cavities. High-frequency triode oscillators. Klystrons and magnetrons. Radio-frequency transmitting and receiving systems. Antennas. Propagation. Index.

Note: (1907*) An authoritative work developed originally for use in the basic course given to selected Army and Navy personnel at the M.I.T. Radar School during World War II. The book is concerned primarily with the basic principles and techniques of radar and is not intended to instruct in the operation of particular types of radar equipment. In this revision the general scope and purpose of the previous editions have been retained, but the subject matter has been extensively reorganized and rewritten. The chapters on antennas and propagation, transmitting and receiving systems, waveguides and cavity resonators, have been thoroughly revised and new material added on wave interference, klystrons, providing operation in transmission-line circuits, and applications of synchrons. Many new illustrations have also been included.

CHEMICAL ENGINEERING

**BENEDICT MANSON AND CLARKE WIL-
LIAMS** editors

Engineering developments in the gaseous diffusion process. New York McGraw Hill Book Company Inc., 1949 127 p. illus. 24 cm. (National nuclear energy series. Manhattan Project technical section. Division II—Vol. 16.) \$2.00. 2223

Contents: Part 1. Special plant instruments and devices: Recording mass spectrometer for process analysis, by A. O. Mier and others. Recording ionization chamber for traces of radioactive gases, by A. O. Mier and others. Mass flow gas for turbine transfer to chemical system, by T. A. Abbott and J. K. Pickard. Part 2. Vacuum engineering: Mass spectrometers for leak detection, by A. O. Mier and others. New developments in vacuum engineering, by R. B. Jacobs and E. F. Zuk. Part 3. Development of heat-transfer equipment: Theory of heat and mass transfer in batch condensation of solids, by W. L. Thompson. Part 4. Absorption of UF and fluorine: Absorption in high-molecular-weight, nonpolar, aprotic, nonfluorinated hydrocarbons in heavy oil, by E. London and others. Continuous fluorine-fluorine liquid, by E. London. The reaction of fluorine oxide with various hydrocarbons, by R. Somers and others. Subject index. Author index.

Note: A variety of devices and techniques developed in the course of the engineering design of gaseous diffusion plants for separating nuclear isotopes are described in this book. Most of the innovations and developments have potential applications in other fields. An example is the magnetic rack which was developed for transferred magnetism through the wall of a highly charged system. Literature references are included for some of the chapters. The book is addressed to graduate engineers.

BROWN, GEORGE GRANGER, AND OTHERS
Unit operations. New York John Wiley & Sons, Inc., 1950 611 p. illus. 28 cm. \$9.00 2224

Contents: (abridged) Part 1. Solids: Screening. Handling of solids. Part 2. Fluids: The flow of fluids through solids. Flotation. Sedimentation. Transportation of solids. Pumping and conveying. Gas flow at high velocity. Flow of fluids through porous media. Filtration. Centrifugation. Fluidization of solids. Part 3. Separation by mass transfer—the ideal stage concept: Solid-liquid extraction. Liquid-liquid extraction. Vapor-liquid transfer operations. Adsorption. Part 4. Energy and mass transfer: Heat transfer. Evaporation. Crystallization. Aqueous. Single-phase heat and mass transfer. Membranes. Appendix. Index.

Note: Twelve authors, all members of the Faculty of Chemical and Metallurgical Engineering in the University of Michigan, have collaborated in writing this text in chemical engineering. Each of the chapters is heavily written expounded of specific topics. There is much emphasis on mathematical calculation in the solution of practical problems in chemical engineering, and the clarity of the basic principles of many processes is constantly stressed. The exposition is supplemented by numerous illustrations of present-day chemical apparatus and substantial bibliography.

CHU JU CHIN, AND OTHERS
Distillation equilibrium data, by Ju Chin Chu Robert J. Getty Llewellyn F. Brennecke and Rajendra Paul. New York Reinhold Publishing Corporation, 1950 304 p. 24 cm. \$7.00. 2225

Contents: Binary systems. Ternary systems. Multiple component systems. Bibliography. Index.

Note: A compilation of vapor-liquid equilibrium data which includes all of the data published through December 1949.

Altogether 176 systems are covered, and full references are given to the sources of the data. The book will be especially useful to chemical engineers.

FLOSDORF EARL WILLIAM
Freeze-drying [drying by sublimation] New York Reinhold Publishing Corporation 1949 280 p. illus. 24 cm. \$7.00. 2226

Contents: Introduction. Basic principles. Applications. Changes in products during desiccation from the frozen state and in storage. Equipment used for medical products. Equipment for foods. Appendixes: List of U. S. patents. Flosdorf's studies with penicillin. Data tables. Imbedding with acrylic plastic. Microscopy. Author index. Subject index.

Note: The drying of selected substances while they are in frozen state has become important in chemical manufacturing. For example, certain biological materials such as blood plasma, vaccines, antibiotics, bacterial and viral cultures cannot be dried by ordinary methods, but they can be dried with little or no loss in potency by sublimation under vacuum. This book, by one of the leading workers in the field, states the basic theories, describes the chief applications and some of the important "know-how" and provides other useful information. It is addressed to research workers, manufacturers, and other persons with technical backgrounds. There are extensive bibliographies.

**GROGGINS PHILIP HERKIMER, editor in-
chief**

Unit processes in organic synthesis. Fourth edition. New York McGraw Hill Book Company Inc. 1952 937 p. illus. 24 cm. (McGraw-Hill chemical engineering series) \$12.50 2227

Contents: Nitration, by P. H. Groggins. Amine synthesis by reduction, by P. H. Groggins. Displacement and coupling, by H. E. Woodward. Halogenation, by P. H. Groggins and H. F. Wertz. Sulfonation, by P. H. Groggins. Amine synthesis by azoacetylation, by P. H. Groggins. Oxidation, by L. F. Mock. Hydrogenation, by M. E. Franklin. Hydrolysis (one reaction), by M. E. Franklin and W. C. Schaeffer. Esterification, by K. K. Kake. Hydrolysis, by K. J. Lloyd and W. F. Harner. Polymerization, by W. F. Harner and H. Mack. Alkylation, by K. M. Kierke. The Friedel-Crafts reaction, by P. H. Groggins. Mass index. Subject index.

Note: (1217) A widely used textbook of chemical engineering techniques in synthesizing processes that involve organic synthesis. It covers basic principles, operating conditions and factors, typical plant equipment, and contains flow sheets. The information given in many parts is detailed enough to make the book of interest to graduate chemical engineers. The previous edition appeared in 1947. In this edition there are many important changes including one completely new chapter.

GUMZ WILHELM
Gas producers and blast furnaces—theory and methods of calculation. New York John Wiley & Sons, Inc. 1950. 316 p. illus. 21 cm. \$9.00. 2228

Contents: (abridged) Part one. One product: Gasification reactions. Gas composition of equilibrium. One composition of incomplete equilibrium. Applications of the mathematical method for gasification problems. Mathematical treatment of gasification performance. Part two. Blast furnace: Composition of gas in furnace. Method of composition. Part three. Reaction kinetics. Appendix. Name index. Subject index.

Note: In this book the processes which take place in gas producers and blast furnaces are treated as problems in chemical engineering which can be solved largely by mathematical methods. There

exchangers. Magnesia base materials. Solvent recovery and concentration. Other removal, air purification and recovery. Gas scrubbing. Fractionation of liquid hydrocarbons. Fractionation of gases. Fractionation of leas. Adhesives in refining of sugar and related substances. Water treatment. Adhesives in medicine and pharmacy. Chromatographic adsorption. Inspection, specifications, and testing of adsorbent. Appendix. Index.

Note: (1947) Adsorption, the concentration of gases, vapors, etc., on the surfaces of solids where they are held by surface forces, is employed in a wide range of industrial chemical processes. This standard book is devoted mainly to descriptions of adsorbents and discussions of the employment of adsorption and adsorbents in industrial chemical processes. It is of particular interest to chemical engineers, but parts are of interest to men in other fields such as air conditioning. In this edition there is much new material on industrial applications that have been developed since the first edition was prepared. Selected patents and papers are cited in footnotes.

NACHOD, FREDERICK C, editor

Ion exchange, theory and application. New York Academic Press, Inc., 1949 411 p. illus. 24 cm. \$9.50 2235

Contents: Introduction, by F. C. Nachod. Ion exchange equilibria, by H. F. Walton. The kinetics of fixed-bed ion exchange, by H. C. Thomas. Fundamental properties of ion exchange resins, by W. C. Brown. Ion exchange equipment design, by M. K. Galarud. Ion exchange in water treatment, by C. Calnan. Miscellaneous systems in ion exchange, by A. F. Reid. Desalting ion water by R. L. Thurman and R. S. Brown. Application of ion exchange to the separation of inorganic cations, by J. Scheraga. Ion exchange resins and analytical chemistry, by W. R. Sorenson. Metal concentration and recovery by ion exchange, by A. S. Sorenson and F. C. Nachod. Catalytic applications of ion exchange, by A. S. Sorenson. The use of ion exchange adsorbents in biochemical and physiological studies, by M. Applewhite. The separation of amino acids by ion exchange chromatography, by R. L. Block. Sugar refining and by-product recovery by A. S. Sorenson. Ion exchange recovery of chemicals, by M. Applewhite and F. C. Nachod. Miscellaneous applications of ion exchange, by F. K. Lindsay and D. G. Brakelmann. Appendix. Author Index. Subject Index.

Note: This volume is essentially a synthesis, prepared by experts, on present-day applications of ion exchange in various branches of research and industry. Theoretical aspects of the subject are discussed at some length but the emphasis is upon methods, techniques, and equipment. References to periodical articles and patents are cited at the end of each chapter.

PERKY, JOHN HOWARD, editor

Chemical engineers' handbook, prepared by a staff of specialists. Third edition. New York McGraw Hill Book Company Inc., 1950 1942 p. illus. 25 cm. (McGraw-Hill chemical engineering series) \$17.00. 2236

Contents: Mathematical tables and weights and measures. Mathematics. Physical and chemical data. Physical and chemical principles. Flow of fluids. Heat transmission. Evaporation. General theory of distillation operations. Distillation and sublimation. Gas absorption. Solvent extraction and dialysis. Humidification, dehumidification, and cooling towers and spray ponds. Drying. Adsorption. Mechanical operations. Mass reduction and size of the various sections are given. High pressure technique. Process control. Movement and storage of materials. Materials of construction. Pumps. Furnaces and kilns. Power generation and mechanical power transmission. Refrigeration. Plant location. Electricity and electrical engineering. Electrochemistry. Accounting and cost finding. Safety and fire protection. Index.

Note: (1978) A standard reference handbook for chemical engineers. Industrial chemists, engineers of companies manufacturing chemicals, and students. The title of the various sections are given above. The typical section is composed of several compact papers, each with theory, equipment, practice, and range of technical data. In this edition the page size has been increased and the text is now printed in two columns to the page. The new size permits larger size in the illustrations which is a definite advantage. The various sections and scope are summarized the same but slight new ones have been added and new sections that appeared in the preceding edition have been dropped. Numerous references are printed at the end of the sections carried over from the second edition.

PICKER, DAVID E

Chemical engineering for production supervision. Second edition. New York McGraw

Hill Book Company Inc. 1950 290 p. illus. 23 cm. (McGraw Hill chemical engineering series, S D Kirkpatrick, consulting editor) \$5 00 2237

Contents: General principles of chemistry and physics. Transformation of energy. Heat transfer. Evaporation. Distillation. Drying. Flow of fluids. Absorption. Appendix. Answers to problems. Index.

Note: (1978) A book designed to serve chemical-plant production supervisors as a necessary reference handbook, and guide. In it the essential facts and principles of the main operations of chemical engineering are concisely presented with the mathematical treatment limited to the use of, rather than the derivation of, formulas. Illustrative examples included in each chapter show the way calculations may be made, and many worked examples are provided for practice in using these methods. The first seven chapters of this edition are the same except for minor corrections as the same chapters in the first edition (1947). The eighth chapter entitled Absorption is new.

ROBINSON CLARK SHOVE, AND EDWIN R. GILLILAND

Elements of fractional distillation. Revised and rewritten by E. R. Gilliland. Fourth edition. New York McGraw Hill Book Company Inc., 1950 492 p. illus. 24 cm. (McGraw Hill chemical engineering series) \$7.50 2238

Contents: (revised) Determination of vapor-liquid equilibria. Calculations of vapor-liquid equilibria. General methods of fractionation. Simple distillation and condensers. Rectification of binary mixtures. Special binary mixtures. Rectification of multicomponent mixtures. Extractive and azeotropic distillation. Batch distillation. Vacuum distillation. Fractionating column design. Fractionating column construction. Appendix. Index.

Note: (1948) As in the previous editions of this standard text for chemical engineers, students, approximately equal attention is given to basic principles and to the application of these principles to the solution of distillation problems and the design of distillation apparatus. In this edition, however, new emphasis is placed on methods involving the calculation and use of vapor-liquid equilibria. Such topics as batch and vacuum distillation have been expanded to chapter length, and the detailed description of fractionating column design and performance now covers three chapters. The book as a whole has been doubled in size and so extensively rewritten as almost to constitute a new work.

SHERWOOD THOMAS KILGORE AND ROBERT LAMER PITFORD

Absorption and extraction. Second edition. New York McGraw Hill Book Company Inc. 1952 478 p. illus. 24 cm. (McGraw-Hill chemical engineering series, S D Kirkpatrick, consulting editor) \$7 50 2239

Contents: Diffusion. Early diffusion. Transfer of material between phases. Simultaneous heat and mass transfer. Principles of the design of absorption equipment. Design principles for multicomponent systems. Gas absorption equipment. Performance of absorption equipment. Simultaneous absorption and chemical reaction. Solvent extraction. References. Index.

Note: (1952) A rather full treatment of two fundamental and important operations in chemical engineering. The emphasis is on fundamental notions and typical equipment rather than on specific applications. However, numerous applications are mentioned in passing. The book is primarily a text for upper-level students of chemical engineering, but some parts are full enough to be useful to graduate engineers. There is bibliography of 118 references. This edition consists largely of material that did not appear in the original edition.

TERRYBAI, ROBERT EWALD

Liquid extraction. New York McGraw Hill Book Company Inc., 1951 422 p. illus. 23 cm. (McGraw Hill chemical engineering series) \$8.00 2240

Contents: Introduction. Liquid equilibria. Prediction of distribution. Choice of solvent. Diffusion and mass transfer. Methods of

calculation—stagewise contact with single solvent—stagewise contact with mixed and double solvents—continuous countercurrent contact. Equipment for stagewise contact. Equipment for continuous countercurrent contact. Liquid-extraction processes. Problems. Name Index. Subject Index.

Note: A treatise on the application of liquid extraction techniques to industrial operations. It is regarded as that it may be used in courses offered to graduate students of chemical engineering. It is also suitable as a survey of the subject for working chemists. Basic academic education did not include course in the subject. Basic principles and techniques are emphasized rather than details of particular applications and equipment. Even in the chapters on equipment the emphasis is on types rather than on specific installations. Numerous graphs and tables of engineering data are included. Statements in the text are key-numbered to the extensive list of references. The author is Professor of Chemical Engineering in New York University.

VILBRANDT, FRANK CARL.

Chemical engineering plant design. Third edition. New York: McGraw Hill Book Com

pany, Inc., 1949. 608 p. illus. 23 cm. (McGraw Hill chemical engineering series) \$7.50.

2241

Contents: Introduction. Fundamentals. Design. Piping installation. Pumps and pumping. The building. Power and power transmission. Development of the design project. Flow diagrams. Selection of process equipment. Plant layout and elevation. Locating the chemical plant. Reconstruction cost estimating. Appendix. Index.

Note: (1444) A well-known work used as text in engineering college courses and as desk book by practicing chemical engineers. It is introductory to the subject of plant design but it is intended for readers who have fundamental knowledge of chemical engineering. Although important additions and revisions were made in preparing the present edition, the greater part of the text is unchanged. Approximately half of the increase in pages is accounted for by major expansion of the chapter on estimating of cost before construction. Other changes are widely scattered throughout the work and have to do with numerous topics such as the size of the steam plant, safety and the design of pilot plants. The list of selected readings have been revised.

APPLIED CHEMISTRY

GENERAL

BENNETT H., editor-in-chief

The chemical formulae and a collection of valuable, timely practical, commercial for mules and recipes for making thousands of products in many fields of industry Volume IX. New York. Chemical Publishing Company Inc., 1951 648 p. 22 cm. \$7.00 2242

Contents (abridged): Adhesives. Cosmetics and drugs. Ceramics, glass, and cement. Cellulose. Fats and garden products. Food, ink, and marking compounds. Insulations, insecticides, and wood preservatives. Leather, alloys, and fire retardants and salts. Metals and their treatment. Paints, varnishes, lacquers and other coatings. Paper, photography, plastics, pyrotechnics and explosives. Rubber, resins, plastic, and waxes. Soaps and cleansers. Textiles. Trade-mark chemicals. Chemicals and suppliers: where to buy them. Salts of chemicals and supplies. Index.

Note: (1951) The present volume of well-known reference set contains formulas and recipes that have not appeared in the previous volumes. Of interest to small manufacturers, industrial chemists, and also to the amateur mechanic looking for such information as how to plate plastics.

ENCYCLOPEDIA OF CHEMICAL TECHNOLOGY
Edited by Raymond E. Kirk and Donald F. Othmer Volumes 3-9 Carbon to penicillin. New York The Interscience Encyclopedia, Inc., 1952 944 p illus. 27 cm. \$25.00 per volume. 2243

Note: (1952) A valuable reference work, Volume 1 of which was published in 1947. Originally scheduled for completion in ten volumes, it is now scheduled for completion with Volume 16. Volumes 2 to 9 contain the entries set by the earlier volumes, and contain entries which range in length from short definitions to long encyclopedic articles, most of which are signed and include selective but extensive bibliographies. A few of the longer, more important articles in this run of volumes are: Catalysis, 26 p.; important products, 63 p.; dyes and colorants, 290 p.; cyanides, 67 p.; dairy products, 67 p.; diffusion, 57 p.; dyes, 119 p.; fatty acids, 128 p.; ferrous, 73 p.; halogens, 41 p.; history of chemical technology, 49 p.; and pigments, 34 p.

HAYNES WILLIAMS

American chemical industry Volume IV The merger era 1923-1929 Volume VI, The chemical companies. New York D Van Nostrand Company Inc., 1948-49 2 v 24 cm. \$12.00 per volume. 2244

Contents (abridged): Volume IV Part one, The booming twenties: The factors to secondary The state of trade. American chemical mergers. Foreign articles and trends Part two, Important chemicals: Sulfuric acid from bituminous. Nitric acid from ammonia. Phosphoric compounds. Electric compounds for alloys. Other industrial chemicals. Part three, Organic chemicals: Alcohol under prohibition. Wood chemicals: most synthetic composition. Solvents used organic progress. Crates and intermediates. American drug build. Iron base. Part four, Metals and other fine chemicals: Cellulose acetate. Chemicals. The fine chemicals. Drug products and pharmaceuticals. Rubber and leather-chemicals and natural. Part five, The expanding industries: Petroleum. New post-war chemical products. From plastics to new. Oil and plastics. Rayon and other textiles. Explosives and incendiary. Lead. Chemicals in industry: Branching chemical products. Appendix. Book titles. Company and personal name index. Subject index. Volume VII Company histories: Alkali Laboratories.

Alk Reduction Company Inc. American Aniline Products, Inc. American Cyanamid Company American Research Chemicals Corporation. J. T. Baker Chemical Company. Keweenaw Chemical Corporation. Williams & Co. (U.S.A.) Inc. Calumet Corporation of America. Calumet-Pulmerville-Park Company The Derivative Chemical Corporation. Diverse Plastics & Chemicals, Inc. Eastern Chemical and Dyestuff Company Fisher Scientific Company General Chemicals and Scientific Corporation. General Electric Company Johns-Manville Corporation. Monmouth Corporation. National Dairy Research Laboratories, Inc. Pittsburgh Coke & Chemical Company The Quaker Oats Company Shell Development Company Union Carbide and Carbon Corporation. United States Rubber Company Ziegler & Company Inc. Name Index. Products Index.

Note: (1949) These volumes form part of a comprehensive history begun in 1945 with volume II and III, and planned for completion in six volumes. The material is based both on published data and on first-hand information gained from men who took part in the events described. Volume IV follows the pattern set by volumes II and III and includes in the appendix much statistical data on prices, production, imports, and tariffs. Also included are periods of leading figures and extensive bibliographies. Volume VI departs from the chronological arrangement of the previous volumes, and provides brief histories of 219 companies which have played leading part in the development of the American chemical industry. Volumes II and covering the periods 1908-1910 and 1910-1930 are in preparation.

LESTER, MILTON A.

Modern chemical specialties. New York Mac Nair Dorland Company, 1950 514 p. illus. 24 cm. \$7.25 2245

Contents (abridged): Detergents and cleaners. Disinfectants, dyestuffs. Industrial food chemicals. Chemicals and packaging. Drugs, resins and varnishes. Paper chemicals. Rums, resins, resins. Fasteners. Fasteners. Polishes. Glass, chemical, polishes, and pigments. Alloys and chemicals. Metal polishes. Auto polishes. First aid products: First aid and chemicals. Wax floor polishes. Floor oils and preservative compounds. Crack fillers. Textile products: Laundry bleaches. Laundry starches. Laundry soaps. Laundry bleachings. Minks preservatives. Match products. Products for leather care. Leather cleaners and preservatives. Kettles and leather soaps. Colored shoe polishes. Industrial and household specialties: Waterless sandblasting specialties. Coating system chemicals. Rubber compounds. Piles and various resins. Water solvents. Air disinfectants. Index.

Note: A practical compendium of information about the manufacture of household and industrial products of the kinds mentioned in the chapter titles. In each section there is a general discussion of the nature and uses of the class of product, descriptions of some aspects of its manufacture, and a variety of formulas. Literature references are provided for each chapter.

MCCORD CARRY PRATT, and WILLIAM N WITHERIDGE

Odors physiology and control. New York McGraw-Hill Book Company Inc., 1949 405 p. illus. 23 cm. \$7.00 2246

Contents: The anatomy of the olfactory system. The physiology of the olfactory system. Chemical constitution and odors. Odor classification. Odor detection and measurement. The pathology and pervasiveness of the olfactory system. The influence of odors on health and comfort. Human body odors in health. Human body odors in disease. Odors in the diagnosis of disease. Household odors. Odors of wastes and foods. Industrial odors. The offensive trades. Air conditioning and odors. Chemical and physical destruction of odors. Odor masking. Odor counteraction and counteraction. The synthesis of odors. Odors as warning agents. Odor repellents and odor attractants. The making of an odor survey. The legal aspects of odor nuisance. Bibliography. Index.

Note: In the main this monograph which is concerned with offensive odors, and the subject is treated from the viewpoint of persons concerned with ventilation of buildings, public health, etc.

PETROLEUM CHEMISTRY

AMERICAN CHEMICAL SOCIETY

Progress in petroleum technology a collection of the papers presented at the Symposium on Twenty Five Years of Progress in Petroleum Technology held by the Division of Petroleum Chemistry of the American Chemical Society at the Diamond Jubilee meeting in New York, September 3 to 7 1951 Symposium chairman Robert E. Wilson. Washington D. C. American Chemical Society 1951 392 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. five) Cloth \$5.00 paper, \$3.00

2258

Contents. Scope of the symposium, by R. E. Wilson. The mechanism of catalytic cracking, by E. E. Gerasimovich. Catalytic cracking in fixed and moving-bed processes, by D. R. Anderson and others. Fluid catalytic cracking process, by K. V. Narasimhan. International and fixed catalytic reforming of naphthalene, by H. G. McGraw and L. E. Hill. Fixed catalytic reforming, by E. V. Murphree. Conversion of petroleum and thermal cracking, by V. H. Starnes and M. J. Starnes. Development of reforming catalysts, by M. J. Starnes and others. Polymerization of hydrocarbon gases to motor fuels, by P. A. Kischner and L. M. Benveniste. Commercial alkylation of isobutane, by A. V. Lintz and others. Isomerization, by E. C. Gossens. Synthesis of liquid fuels from natural gas, by H. K. Arnold and P. C. Keith. Liquid fuels from coal and oil shale, by H. H. Storch. Desulfurization and sweetening, by T. T. Tait. Dewaxing and demulsification, by W. P. Gee and H. H. Gross. Solvent extraction in the petroleum industry, by G. C. Genter Jr. Petroleum distillation, by W. E. Riedley and G. R. Lake. Internal combustion engine fuels, by R. E. Alkridge. Tetraethyllead, by O. Edgar. Petroleum lubricants, by J. J. S. Paine and H. A. Anderson. Domestic fuel oil, by J. R. Hill. Natural gas liquids, by R. R. Carney. Asphalts and tars, by E. C. Higgins and E. F. Harman. Petroleum coke and coking, by C. L. Thomas. Aliphatic chemicals, by G. A. Colton and A. Jansard. Aromatics from petroleum, by R. M. Love and R. P. Fleming. Kinetics and plastics, by W. B. Reynolds and W. W. Cawth. Synthetic detergents (see petroleum), by W. E. Grice and J. A. Nivens. Composition of petroleum, by F. D. Rossini and J. J. Mar. Relations of properties to molecular structure for petroleum hydrocarbons, by C. E. Searcy. Physical chemistry in the petroleum industry, by H. H. Sage. Analysis of petroleum, by H. Levy.

Note: Many of the papers in this collection cover steadily advances made during the past 25 years, but others describe the current status of specific areas of petroleum technology. Literature references accompany each paper. The papers are original and their authors include many contemporary leaders in petroleum research.

BONDI ARNOLD AARON

Physical chemistry of lubricating oils. New York Reinhold Publishing Corporation 1951 380 p. 24 cm. \$10.00

2259

Contents. Pressure-volume-temperature (PVT) properties. Rheology. Surface phenomena. Optical and electrical properties. The hydrocarbon type analysis of lubricating oils. Phase equilibria. Reaction kinetics. Synthetic lubricants. Index.

Note. An authoritative survey of the present status of the physical chemistry of the hydrocarbons used chiefly for lubrication. The main emphasis is on the relation between chemical structure and physical properties and on the means for measuring these properties. There is also some discussion of the chemical reactions of lubricating oils and greases with such substances as oxygen and oxidizing acid since these reactions affect the properties that are important to lubrication. The chapter on synthetic lubricants—that is, compounds designed as substitutes for the traditional petroleum products—will be of considerable interest to both lubrication chemists and machine designers. The text is supplemented by much tabular data, and each chapter is accompanied by fairly extensive bibliography that includes patents as well as books and articles. The author is associated with the Shell Development Company.

FARRAS, ADALBERT, editor

Physical chemistry of the hydrocarbons. Volume 1. New York Academic Press, Inc. 1950 453 p. illus. 24 cm. \$8.50.

2260

Contents. The chemical bond in hydrocarbon molecules, by O. W. Wheland. The molecular structure of hydrocarbons as determined by spectroscopy and infrared and X-ray diffraction, by M. K. Joshi. Mass spectroscopy in hydrocarbon analysis, by J. J. MacCall. Optical properties of hydrocarbons; infrared absorption, Raman, and ultraviolet absorption spectroscopy, by N. D. Coggeshall. Optical methods of hydrocarbon analysis, by N. D. Coggeshall. Electrical properties of hydrocarbons, by A. Gemant. Solvent extraction of hydrocarbons; solubility relations between liquid hydrocarbons and other liquids, by A. W. Francis. Solid-liquid equilibria of hydrocarbons, by M. R. Cantow. Chemical thermodynamic equilibria among hydrocarbons, by F. D. Rossini. Author index. Subject index.

Note. A systematic presentation of physical and chemical knowledge pertaining to the properties and behavior of the hydrocarbons. It is addressed primarily to graduate chemists. Of the same nature as represented in the present volume, series are associated with fundamental research; nevertheless, their papers deal more with basic data applied knowledge and techniques. There are numerous tabulations of physical-chemical data, and each paper is supplemented by an extensive bibliography of about 15 which will complete the work will be devoted to such matters as density, surface tension, viscosity, critical properties, optical activity and chemical manipulation of hydrocarbons. The work is of interest not only to the petroleum industry itself but to all industries based upon hydrocarbons.

HUNTINGTON RICHARD LEE

Natural gas and natural gasoline. New York McGraw Hill Book Company Inc. 1950 593 p. illus. 23 cm. (McGraw Hill chemical engineering series) \$8.00.

2261

Contents. Introduction. Estimation of gas and gasoline content. Elements of plant location and design. Gathering of raw gas and collection of natural gas. Determination of critical conditions in the Cotton Valley (Louisiana) gas-condensate reservoir. Elements of natural-gas processing. Absorption. Distillation and fractionation. Gas dehydration. Storage and transportation. High-pressure pipeline research. Appendixes. Index.

Note. An engineering college textbook which offers broad introduction to the natural gas industry with emphasis on the phases which are primarily of interest to chemical engineers. The process of removing natural gasoline from the raw gas is covered and so are the other aspects of natural gas processing. The chapters on storage and transportation and high-pressure pipelines research are together 125 pages long and present a fairly inclusive survey of the engineering principles. Aside from its intended use in colleges, the book should be of interest to graduate engineers who are concerned with natural gas but do not include course in natural gas but in find themselves in need of information about the field.

MAXWELL J B

Data book on hydrocarbons application to process engineering. Second printing. First published February 1950. Reprinted March 1951 New York D Van Nostrand Company Inc. 1951 259 p. illus. 26 cm. \$5.00.

2262

Contents. Physical data. Physical constants. Characteristics of petroleum fractions. Molecular weight. Vapor pressure. Specific gravity. Critical properties. Thermal properties. Density. Viscosity. Compressibility. Flow of fluids. Flow of heat. Equilibrium. Solubility. Fractionation towers. Corrosion. Index.

Note. Earlier editions of this work produced by the Standard Oil Development Company proved of such value to technical personnel in the Company and its affiliates that the Company decided to make it available for general use. It contains (1) basic data on hydrocarbons and petroleum fractions, (2) methods of applying these data to process engineering, including (a) descriptive properties and (b) fundamental theory, and (3) applications of few of the most important of chemical engineering used extensively in the petroleum industry. The presentation is largely in the form of graphs and tables.

MEYER, ERICH

White mineral oil and petrolatum. New York Chemical Publishing Co., Inc. 1950. 135 p. illus. 22 cm. \$4.75

2263

Contents: Technical aspects of white mineral oil and petroleum. Application of white mineral oil and petroleum. Methods of testing white oil and petroleum. Shipping and handling of white mineral oil and petroleum. Index.

Note: The heart of this rather short reference book is the second chapter in which data are provided on the uses of petroleum (including white mineral oil) in a wide range of industries and products. Typical of the arrangement of this part is the matter presented under "Household-type kerosene." Here the variety of oil and its uses are stated briefly; the ingredients and proportions of typical sprays are given; then the requirements to be met by the oil and the requirements expressed in standard tests taken from Army and Navy specifications are tabulated.

NELSON WILBUR LUDINE

Petroleum refinery engineering. Third edition. New York McGraw Hill Book Company Inc., 1949 830 p. illus. 24 cm. (McGraw Hill chemical engineering series S. D. Kirkpatrick, consulting editor) \$10.00. 2264

Contents: Chemical engineering and petroleum engineering. History and development of refining. Characteristics of petroleum. Refinery products and test methods. Evaluation of oil stocks. Physical properties of petroleum oil. Introduction to processing. Refinery corrosion and metals. Refinery and distillation processes. Auxiliary processes and operations. Conventional chemical treatments. Solvent treating or extraction processes. Dewatering. Field mechanics. Combustion. Vaporization and condensation. Fractionation and towers. Heat transfer and exchangers. Tube-shell heaters. Thermal cracking and decomposition processes. Reforming. Hydrocracking. Catalytic cracking. Natural gas and natural gasoline. Economics of design. Typical design calculations. Appendix. Author Index. Subject Index.

Note: (1934) In its third edition since 1934 this work has been almost completely rewritten. It contains about one-third new material that was in the second edition. It is now more than ever relevant for its practicing engineers. Most of the fundamental material which is included in general textbooks has been omitted and its place taken by discussion of current processes and practices in petroleum refining. All of the new data which are of interest in the design of refineries are included in full detail. There are both footnote references and extensive chapter bibliographies.

SMITH N. A. C. AND OTHERS

The Bureau of Mines routine method for the analysis of crude petroleum (in three parts) 1. The analytical method, by N. A. C. Smith, H. M. Smith, O. C. Blade, and E. I. Garton. Washington, D. C. Government Printing Office, 1951 82 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 490) Paper \$0.50. 2265

Contents: Introduction. Distillation (Bureau of Mines routine method). Distillation of atmospheric pressure. Distillation at reduced pressure (40 mm. of mercury). Treatment of several crude-oil samples. The analytical report. Samples and sample handling. Sample information. Sample inspection and identification. Property determination. Specific gravity. Viscosity. Sulfur. Color. Cloud test. Pour point. Carbon residue. Aniline point. Preparing the report of an analyzer. Appendixes: summary. Summary values. Outline of Bureau of Mines routine method for the analysis of crude petroleum. References. Appendix: Bibliography of reports containing analysis of crude oil by Bureau of Mines routine method. Finding list for crude-oil analysis.

Note: The method of analysis described in this bulletin has been used in analyzing thousands of samples of crude oil since it was developed during the period 1915 to 1930. It was first described in Bureau of Mines Bulletin 257 1921, of which the present bulletin is largely a revision. Details of the procedures, descriptions of the apparatus, and brief discussions of auxiliary methods are all included. The appendix includes a bibliography of reports which contain analysis of crude oil by this method and finding list of samples analyzed by all fields in the respective states of the United States and in other countries.

WILEY, J. L., AND H. C. ANDERSON

Bibliography of pressure hydrogenation. Washington, D. C. Government Printing Of. See, 1930-52 646 p. 26 cm. (United States.

Bureau of Mines. Bulletin 485) Part I, o.p. Part II, paper \$1.00 Part III, paper, \$0.25 2266

Note: This work contains abstracts of the world's technical literature bearing on the history, development, and commercial application of the Bergius and related processes for the hydrogenation, under greater than atmospheric pressure, of liquid and solid carbonaceous materials such as coal, lignite, their distillation and extraction products, pitches and tars, and petroleum and its distillation residues. Part contains 2803 abstracts of journal articles; Part II, 3548 abstracts of patents, and Part III contains subject index to Parts I and II and a numerical index.

PAINT AND VARNISH

BIDLACK, VERNIE C. AND EDGAR W. FASIO
editors

Paint and varnish production manual. New York John Wiley & Sons, Inc., 1951. 283 p. illus. 24 cm. \$6.50 2267

Contents: Physical factors. Paint plant. Varnish plant. Products. Engineering. Manufacturing operations. Personnel. Factory accounting. Research, development and control. Test practices, safety and health. Index.

Note: In this book—sponsored by the Federation of Paint and Varnish Production Clubs—plant layout, equipment, materials handling, and many other topics of interest in the organization and management of plants for the manufacture of paint and varnish are discussed by experts. The work appears to be addressed to management and production staff of small plants, but there is material in it that is of potential interest to the personnel of larger plants also. Good bibliographies are included.

DENIBSTON GEORGE LOWELL

The science of modern wood finishing. A digest of modern materials and methods for industrial finishers and home craftsmen seeking to secure finer finishes at lower costs. With an introduction by Robert F. Olmeyer. Dayton, Ohio Research Press Inc., 1949 386 p. illus. (part col d) 21 cm. \$6.00. 2268

Contents: Cabinet, furniture and other woods. Glass and plastic. Sanding, staining and bleaching. Ratings—materials and methods. Aniline dye for Chiselwood non-grain-raising stains. Organic materials used in making Chiselwood MGR stains. Fibers and films. Laminating surfaces. Patching on plastics. Finishing with varnishes. Lacquer, spray-on and other applications. Rubbing and polishing of wood surfaces. Monthly finishes and other special finish effects. Veneering techniques. Representative finishing schedules. Sources of good finishing practice. Reproducts and refinishing. Appendix 1 to 4. Figures for finishers. Bibliography. Glossary of terms.

Note: A technical survey of present-day materials and methods which is especially valuable for information on developments of recent years. Translucent and semi-transparent finishes are given of white paints and other opaque materials that caused the great revolution in wood finishing. Preliminary operations, such as sanding, are dealt with together with the application of selected finishes. A variety of material is presented which is potentially of interest to several furniture manufacturing and to others with technical or commercial interests in the field. The bibliography and glossary are thorough but there is no index.

SODERBERG GEORGE A.

Finishing materials and methods. Chicago Illinois McKnight & Co. 1952 320 p. 24 cm. \$4.00

Contents: (revised) Section 1. Finishing materials and methods. Varnishes and enamels. Synthetic resins and other materials. Paints. Putty. Metallic paint. Oil-based stains and pigments. Water-based finishing material. Wax, oil, and other finishes. Stains. Woodfiller. Blending. Index.

Costal and polishing abrasives. Water. Pressure-sandil. Impact. Section II. Finishing methods: Brushing. Spraying. Dipping and Recoating. Roller coating. Tumbling. Methods of procedure. Recommended and safe practices in the finishing department. Opportunities in the polishing industry index.

Note. Although this book is primarily textbook for practical students enrolled in vocational courses, it contains such wide range of information that its usefulness extends to readers and craftsmen not enrolled in schools. A number of topics not usually treated in practical texts are covered. For example, there is chapter on how paid brushes are made. It is supplemented by list of pertinent literature. The discussions of most topics are short, but they contain much useful information. There are 189 illustrations of good quality. The author is Assistant Professor of Industrial Education at the Soviet Institute.

WALDIE, W. A.

The science of wrinkle finishing the manufacture and application of the "one coat" finish. Introduction by Paul Kennedy Dayton Ohio Research Press Inc. 1949 204 p. illus. (part col d) 21 cm. \$5.00 2270

Contents: Part I. The characteristics and applications of "wrinkle" finishes. Origin of "wrinkle" finishes. "Wrinkle" pattern, texture and gloss. Color in "wrinkle" finishes. Physical characteristics of "wrinkle" finishes. Surface properties of "wrinkle" finishes. Application of "wrinkle" finishes. Baking of "wrinkle" finishes. Flexibility and air dry "wrinkles". Part II. The formulation and manufacture of "wrinkle" finishes. Ingredients and processing equipment. Types of formulations. Color and colorations. Optical and decorative. Laminated and formulated. Porosity, ink and dry burn off formulations. Synthetic resin formulations. Aqueous and latex "wrinkle" formulations. Special pattern formulations. Air dry and flexible formulations. Presentation. Appendixes: Outline for study of polymerization in the drying of oils. Summary of "wrinkle" patents. New Wrinkle, Inc. Price. Bibliography. Glossary of terms.

Note. "Wrinkle" finishes are widely used on metals, especially in the finishing on the cases or housings of office machines, measuring instruments, cameras, etc. This book is a comprehensive summary of the subject in which their development, types, and formulations are covered. The chemistry of "wrinkle" finishing is discussed in practical detail, and there are 15 photographs illustrating various finishes. Also the patent aspect including both patents issued and notable patent litigation is covered.

VARIOUS SUBSTANCES

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on aging of rubbers. Chicago Spring meeting American Society for Testing Materials March 2 1949 Philadelphia, Pa. American Society for Testing Materials, 1949 72 p illus. 23 cm. (Special technical publication no. 89) Cloth, \$2.40 paper \$1.75 2271

Contents: Introduction, by O. C. Mazzoni. The mode of attack of oxygen on rubber, by A. M. Neal and J. R. Vincent. Oxygen-absorption methods—their utility and limitations in the study of aging, by J. Reid Sheline. Chemical changes in elastomers and antioxidants during aging, by John G. Cole. Physical aspects of the aging of rubbers, by M. C. Thordahl. The effects of light and ozone on rubber, by John T. Eklie. The effect of temperature on the aging of rubber vulcanizates, by M. O. Schuck, Jr. and A. E. Jerns. **Note.** The papers comprising this symposium have been prepared by industrial chemists actively engaged in rubber research. They provide description of methods employed in conducting accelerated aging tests on natural and synthetic rubbers and review of present-day knowledge concerning the physical and chemical changes which occur during the aging process. Discussions and bibliographies are included.

ANDERSON CARL CLAUDE AND H. H. HINSON

Helium-bearing natural gases of the United States analyses and analytical methods. Washington, D. C. Government Printing Office, 1951 141 p. illus. 26 cm. (United States Bureau of Mines, Bulletin 486) Paper \$0.70. 2272

Contrasts Survey of helium resources. Methods of collecting samples. Methods of analysis. Apparatus and method for determining helium by measuring volume. Improved apparatus and procedure for determining helium in natural gas by measuring pressure, by E. M. Frost, Jr. Gravimetric apparatus. One-gram apparatus. Tests of combustion. Well data submitted with gas samples. Tables. Samples from gas and oil wells. Samples from pipe lines. Miscellaneous samples.

Note. The results of Bureau of Mines survey of helium resources are given in this report, which comprises gas analyses and accompanying data on more than 7100 samples that have been collected in 30 states. The survey to determine the nation's helium resources has been carried on for all natural gas producing areas of the United States since the inception of the Government's helium program in 1917 and the primary purpose of the report is to present the results of this work in tabulated form. Two types of apparatus and two methods are described for determining helium in gas samples. By the older of these methods helium is determined by volume measurements, and in the newer method, which is more precise, the method procedure employs pressure measurements.

BAILEY, ALTON EDWARD

Industrial oil and fat products. Second completely revised and augmented edition. New York Interscience Publishers, Inc., 1951. 967 p illus. 23 cm. (Fats and oils a series of monographs on the chemistry and technology of fats, oils, and related substances. Editorial board A. E. Bailey and others) \$15.00. 2273

Contents (abridged): Part A. The nature of fats and their uses. (1) fats and fatty acids. Physical properties of fats and fatty acids. Role of fats in diet of man. Part B. Raw materials for oil and fat products: Sources, utilization, and classification of oils and fats. Composition and characteristics of industrial fats and oils. Part C. Industrial utilization of fats and oils. Cooking and mixed oils. Food emulsions. Soap and other surface-active agents. Paints, varnishes, and related products. Part D. Uses of petroleum in oil and fat technology: Handling, storage and grading of oils and oil-bearing materials. Extraction of fats and oils. Refining and bleaching. Hydroprocessing. Deodorization. Fuel splicing, emulsification, and hydrogenation. Saponification. Fractionation of fats and fatty acids. Polymerization, isomerization, and related processes. Sulfonation, hydrogenation, and conversion. Author index. Subject index.

Note. A comprehensive monograph on the fats and oils used in industry and the technology of extracting and using them. In addition to natural products, information is included on "model" "fats" and other synthetic materials used in connection with food and oils, especially in food products. The treatment is on professional level, and the book is intended for graduate students and graduate chemists already at work in industry. Processes, reactions, reagents, hydrocarbons, etc., are explicitly described. Related literature is cited in footnotes and the author's names are brought out in the 19-page author index. In comparison to the first edition (1935) the work has been extensively revised and much expanded.

BAILEY ALTON EDWARD

Melting and solidification of fats. New York Interscience Publishers, Inc., 1950. 357 p. 23 cm. \$7.50. 2274

Contents: General and chemical considerations. Laboratory techniques. Melting and solidification of pure compounds. Melting and solidification of mixtures. Solubility. Practical melting and solidification processes. Author index. Subject index.

Note: Both the theoretical and practical aspects of the melting and solidification of fats are covered in this book. The presentation is on professional level, and the work is designed for chemists and other technologists in industry and industrial laboratories. Plans and diagrams and other graphical and tabular presentations of solid data appear frequently throughout the book. The related literature is cited in footnotes. The names of the authors of the papers referred to are gathered together in the author index.

BEDOUKIAN PAUL Z

Perfumery synthetics and isolates. New York D. Van Nostrand Company Inc., 1951. 488 p illus. 24 cm. \$8.50 2275

materials. Cellulosic materials. Fermentation procedures. Synthetic alcohol. Anhydrous alcohol. Ethanol source plants. Summary of origin and applications. Financial aspects of alcohol production. Alcohol markets. Literature cited. Sources of additional information.

Notes: The chemistry, manufacture, and uses of ethyl alcohol presented chiefly from the viewpoint of its production from agricultural products, are treated in this pamphlet by an industrial specialist on the staff of the Bureau of Agricultural and Industrial Chemistry of the Agricultural Research Administration.

KERR, RALPH WALDO editor

Chemistry and industry of starch. Second edition revised and enlarged. New York: Academic Press Inc., 1950 719 p. illus. 23 cm. \$12.50 2281

Contents (abstract) Section I. Differences in nature. Section II. Properties. The manufacture of cane starch. Manufacture of tapioca starch. Manufacture of arrowroot starch. Manufacture of sago starch. Manufacture of industrial starches. Evaluation of modified starches in practice. Section III. Properties. Section IV. Reactions. The hydrolysis of starch as a basis for interpreting its behavior and finding its derivatives of starch. Oxidation of starch. Deacetylation. Acid hydrolysis of starch. The amylose, amylopectin and dextrins. Modification of starch by enzymes. Section V. Cane and arrowroot starch as a basis for paper manufacture. Section VI. Starch and starch products in foods. Section VII. Industrial uses of starch and starch products in foods. Use of starch products in the textile industry. Starch adhesives. Methods of analysis for starch. Author index. Subject index.

Notes. (1994). A comprehensive survey of current status chemistry and industrial uses of starch. It is designed mainly for the industrial chemist who is concerned with starch in use of more manufacturing processes. Important statements and data in the text are keyed to the extensive literature lists. In the present edition—effects to the product of eight colors in addition to the color—the work has been very substantially revised and amplified. The increase in the length is almost 150 pages, reflection of the substantial growth of the patent and scientific literature.

KERTESZ ZOLTÁN IMRE

The pectic substances New York Inter
science Publishers, Inc. 1951 628 p. illus
24 cm. \$13.50. 2282

Contents (abridged) Part one, The chemistry of pectic substances: D-glucuronic acid. Composition and structure of pectic substances. Homogeneity of pectic substances. Preparation and purification of pectic substances in the laboratory. Detection, identification and characterization of pectic substances. Part two, The biology of pectic substances. Occurrence and distribution of pectic substances in plants. Properties of and changes in pectic components in some plants. Part three, The biochemistry of pectic substances. Commercial pectic enzymes. Release of pectic substances in the animal body. Part four, Manufacture of pectic substances. Apple pectin. Citrus pectin. Short pectin. Control of synthesis. Use of pectin as emulsifier. Part five, Some functions and applications of pectic substances and pectin enzymes. Pectic substances in food. Applications of pectic substances in non-food products. Applications of pectic enzymes. Author index. Subject index.

Notes: Probably the most comprehensive treatise on this subject that will be published in many years. It is essentially a digest of the complete literature. There are 2046 references. The book should serve well as a reference book in libraries devoted to organic chemistry and in the personal libraries of food chemists, particularly those chemists concerned with the large-scale manufacture of flavors and salines. The number is associated with the New York State Agricultural Experiment Station at Cornell University.

KUNIN ROBERT AND ROBERT I MYERS

Ion exchange resins New York John Wiley & Sons Inc., 1950 212 p illus. 23 cm. \$4.75 2283

Contents: Introduction and historical review. The theory and mechanisms of ion exchange. Cation exchange resin characteristics. Anion exchange resin characteristics. The synthesis of ion exchange resins. Applications of ion exchange resins. Water softening by ion exchange. Demineralization of water and other electrolyte solutions. Ion exchange in analytical chemistry. Miscellaneous applications. Methods of studying ion exchange resins. The choice of ion exchange resins. References. Appendix. Author index. Subject index.

Note. A compact survey of current knowledge and practice. The

LAWRENCE, CARL ADAM

Surface-active quaternary ammonium germicides. New York Academic Press, Inc. 1950. 245 p. Illus. 24 cm. \$6.00 224

Contents (abridged): Historical. Chemistry. Physical properties. Biology. Pharmacology and toxicology. Practical applications. Insect-active agents and germicides. References. Author index. Subject index.

Note. A survey of the accumulated knowledge of papers of synthetic compounds which are effective pesticides under wide variety of conditions. It is based on the published literature, and references are carefully made throughout the work items statements in the text. The compiled entries in the bibliography. The author has expressed and summarized the reported results, and he has also added moderate number of critical comments of his own. The book is of interest to persons concerned with diseases in connection with agriculture and human public health, bank, lawns, and, ditches, boundaries, etc. It is planned in technical summary over a directory of pesticides trademarked in the United States of America is included.

McCUTCHEON JOHN WELLAND

Synthetic detergents. New York: MacNair
Dorland Company, 1950. 435 p. illus. 24 cm.
\$7.00.

Contents. Introduction. Fundamentals of surface activity. Ionization methods and analytical applications of detergents. Synthesis of surface active agents and their uses. Surface-active emulsions and foams. Interfacial characterization by physical means. Applications of surface active agents. Index.

Key to the work is the interdisciplinary emphasis on the practical application of the research. Applications and methods of research are covered rather thoroughly, but manufacturing and production issues either aspects are covered briefly. Typical innovations in design, ranging from techniques to chemistry, in tool design, including the principles involved are included. The manufacturing techniques and the fabrication of these basic units and their assembly are not. For each trademark product, the name of the manufacturer, city, country, etc. are given. The book is useful to purchasing managers in technical personnel in charge of processes in which design is involved in research, testing, etc.

NYEN WILLIAM W JR

The fundamentals of detergency Under the sponsorship of the American Institute of Laundering. New York Reinhold Publishing Corporation, 1950. 256 p. illus. 24 cm. \$6.50. 2286

[illegible]

Note: In this new book the chemical and physical as well as the biological and toxicological action of detergents is discussed. Much wastewater treatment activity and detergent action are discussed in the context of chemical and other processes in such industries as the pulp and paper, textile, and printing ind. Theory is presented concisely but sufficiently for the purposes. The relations between theory and wastewater are carefully drawn, with most new concepts being treated in the laundry industry. Although the book is not for chemists, it has the advantage of being written by a chemist. It is a good source of knowledge of fundamental chemistry including physical chemistry in necessary to follow the equations. There are some features reminiscent of related literature.

Post HOWARD WILLIAM

Silicones and other organic silicon compounds. New York Reinhold Publishing Corporation, 1949 230 p illus. 23 cm. \$6.00. 2287

Contents: Introduction. Halogenated silicones. The work of Fréchet, K. B. B. and others. Organic compounds of silicon prepared at moderate temperatures (General literature). Organic compounds of silicon prepared at moderate temperatures (General literature). Organic compounds of silicon prepared at higher temperatures. The uses of polymerized silicones. Silica organic compounds analogous to others and silicones. Monosilanes. Physical properties. Bibliography. Author Index. Subject Index.

Note: The scope of this work is "these compounds of silicon which contain carbon at such a character as definitely to impart organic properties to the molecule. Its purpose is to provide brief descriptions of the properties and uses of the silicones and other compounds of silicon that fit this definition, and to summarize the various methods which have been developed for their synthesis. It is based on an extensive survey of the international literature including patents, and the bibliography of original sources constitutes one of the most useful features. In the final chapter are tabulated the formulae, names, melting point, and boiling point for more than 1,000 compounds.

ROCHOW EUGENE GEORGE

An introduction to the chemistry of the silicones. Second edition. New York John Wiley & Sons, Inc. 1951 205 p illus. 24 cm. \$5.50 2288

Contents: The simple covalent compounds of silicon. The carbon-silicon bond. Synthesis of organosilicon compounds. The organosilicon monomers. Types of organosilicon polymers. Properties of the simple silicon polymers. The physical chemistry of silicones. Water-resistant films and protective coatings from organosilicon materials. Some practical considerations. Analytical methods. Tables of physical properties of organosilicon compounds. References. Author Index. Subject Index.

Note: (1951) A useful survey volume mainly for the information of industrial chemists and others in need of technical data. There is some discussion of general chemistry and properties, and fairly exact information on the various classes of these compounds. Especially useful features from the standpoint of those who will use the volume chiefly for references are the eleven tables of properties and the bibliography of 518 literature references. Patents are included in this bibliography. There is substantial amount of new material in this edition, including three chapters that did not appear in the first edition.

ROOT HUBER H

Beeswax, its properties testing production and applications. Brooklyn N Y Chemical Publishing Co., Inc. 1951 154 p illus. 23 cm. \$4.75 2289

Contents: Introduction. The origin and discovery of the nature of beeswax. The production of beeswax. The honeycomb. Extraction of beeswax from combs or applying Tinning process. Bleaching beeswax. Uses of beeswax. Beeswax in cosmetics. Researches. Conclusions. Future trends. Glossary. Index.

Note: A compact survey that is of about equal interest to scientists whose chief product is extracted honey and to manufacturers who use beeswax in such products as candles and cosmetics. The various commercial uses for beeswax are described, and the chapter on cosmetics uses contains several formulas, some, if not all, of which are replicated from other books.

SCHWARTZ ANTHONY MAX, and JAMES W PERRY

Surface active agents their chemistry and technology. New York Interscience Publishers Inc. 1949 579 p illus. 24 cm. \$12.00 2290

Contents (abridged): Introduction. General considerations. Part I. Processes for synthesizing and manufacturing surface active agents. Aromatic surface active agents—Carboxylic acids—Sulfonic acids—Allyl

aromatic sulfonates. Colonic, non-ionic, and miscellaneous surface active agents. Amphiphilic surface active agents. Special considerations and mixtures. Part II. The physical chemistry of surface active agents. The theory and practice of surface and interfacial relationships of pure liquids. Bulk properties of surface active solutions. General and technical evaluation of surface active agents. Relationship of surface activity to chemical constitution. Part III. Practical applications of surface active agents. Applications in the textile industry. Cosmetics and personal care. Pharmaceutical, perfumery, food, and disinfectant uses. Household, laundering, dye, cleaning, and general cleaning uses. Metal technology. Leather technology. Ore flotation. Author Index. Subject Index.

Note: A comprehensive treatment. Theoretical considerations and practical applications share the space about equally. The work is based on an extensive literature survey including patents; and it is of interest not only to chemists working in the field but to chemists and manufacturers in all of the industries in which surface active agents and detergents are used.

SPEEL HENRY C., editor

Textile chemicals and auxiliaries, New York Reinhold Publishing Corporation, 1952 493 p. 24 cm. \$10.00 2291

Contents: Part I. The nature and processing of fabrics. The physical and chemical nature of fibers, by R. E. Roberts. Preparation of fibers and fabrics, by S. M. Kishida and others. Chemical aspects of textile dyeing and printing. Technology of pigment applications, by W. W. Chace. Textile finishing, by H. H. Mosher. Fabric stabilizers, by R. C. Frazier. Textile finishes, by E. W. K. Scherer and J. A. Bennett. Part II. Raw materials in textile processing. Water, by J. C. Allen. Fats, oils, and waxes, by Y. P. Gonsky. Starches, gums, and glues. Solvents and other organic chemicals, by C. P. McClelland. Pigments, by K. D. Leachy and H. I. Bernstein. Soap, by G. W. Lafferty. Synthetic oils and fats, by R. A. Phipps. Aromatic hydrocarbons (aromatics, polynuclears and others), by J. W. McClelland and H. C. Speel. Non-ionic condensates, by H. C. Speel. Catalytic finishing agents, by R. W. Achley. Synthetic resins, by J. E. Lynn and A. R. Myer, Catalytic finishes, by J. A. Clark. Water resistant treatments, by R. A. Phipps. Transpiration, by R. W. Little. Macromolecular and macromolecular agents, by H. L. Lachman. Miscellaneous auxiliaries, by H. C. Speel. Author Index. Subject Index.

Note: A handbook of facts and practical information with the emphasis on the latter. In both the chapters on processes and data on materials the presentation is descriptive and concise. However, each chapter is supplemented by an extensive bibliography. Concise of patents are included in some of the bibliographies. The book is useful as a survey for technically trained persons who are beginning work in the textile industry and as a desk reference book for technologists already established in this industry or in the chemical manufacturing industry.

THOMSEN EDGAR GEORGE, and JOHN W McCUTCHEON

Soaps and detergents. New York Mac Nair Dorland Company 1949 511 p. illus. 24 cm. \$9.00. 2292

Contents: Raw materials, definition, general considerations. Machinery and equipment. Soap making methods—soap manufacture classified and described according to processes. Soap products—soap manufacture classified and described according to uses and character. Uses of the products. Perfumery and coloring agents. Glycolic recovery. Synthetic detergents. Process and analytical control methods. Appendix. Index.

Note: Primarily technical touches on contemporary processes of soap manufacture and on the chief kinds of soap then considered. Various processes are described in considerable detail and there are many pictures of soap-making machinery and of important steps in the manufacturing process. The chapter on synthetic detergents is only 23 pages in length. The appendix contains tabulated reference data on the glycolic content of common oils, the fatty acid content of common oils, the constants, soap-making properties of oils and fats, and a list by trade names of synthetic detergents. This last identifies the manufacturers of such trade-named products, states the class and formulae, and principal uses.

VAIL, JAMES GARRETT

Soluble silicates their properties and uses. Volume 1 Chemistry. By James G. Vail, as assisted by John H. Willis. New York Reinhold Publishing Corporation, 1952 357 p. illus. 24

cm. (American Chemical Society Monograph series) \$9.00 2293

Contents: The hydrogenation. Present practices. The homogeneous systems. The heterogeneous systems. Complex systems. Author Index. Subject Index.

Volume 2 Technology By James G. Vail assisted by John H. Wills, New York Reinhold Publishing Corporation, 1952 669 p. illus. 24 cm. (American Chemical Society Monograph series) \$15.00 2294

Contents: Interfacial reactions by solute solutions, low surface energies and films. Banded surfaces. Sol, gels, and polymers in laboratory. Physiological behavior. Toward the future. Author Index. Subject Index.

Note: A new work which supplements the author's well known *Soluble surfaces in industry* New York, 1929 (ACS monograph no. 46). The text is essentially self-contained literature digest with cross-references from statements and data to chapters of original sources. Patents, especially United States patents, are included among the sources. The author lists both the names of authors of the cited articles and patents. The presentation is technical, but is not too theoretical for the average industrial chemist.

VOET ANDRIES

Ink and paper in the printing process New York Interscience Publishers 1952 313 p. illus. 24 cm. \$5.90. 2295

Contents: Part 1. Ink and press: The function of ink. Measurement of the flow of ink. Flow of dispersion. Flow of ink between parallel plates. Flow of ink on the press. Separation of ink films. Part 2. Ink and paper: Characteristics of disperse-ink reproduction. Microscopy of ink films. Printing. Control and correction of ink. Colorimetry of ink films. Prescription of ink into paper. Print-through ink transfer. Molding of paper. Offset. Physical drying of ink. Chemical drying of ink. Properties of lithographic ink. Author Index. Subject Index.

Note: The main emphasis in this treatise is on the physics of ink. Paper and the chemistry of ink are discussed chiefly from the standpoint of their relations in the behavior of printing inks when applied to paper and printed on the steamroller. The style of presentation is technical and readers need some previous acquaintance with the fundamentals of printing inks and to the graphic arts environment dependent upon them. The illustrations are a number of reproductions of microphotographs of cross sections of ink on paper. Literature references are given to locations. The author is Director of Ink Research on the staff of the J. M. Huber Corporation.

WAGGAMAN WILLIAM HENRY

Phosphoric acid phosphates and phosphatic fertilizers. Second edition New York Reinhold Publishing Corporation 1952 683 p. illus. 23 cm. (American Chemical Society monograph series) \$15.00 2296

Contents: Introduction. Phosphoric acid in animal and plant life. Sources of phosphoric acid and their chemical nature. Florida hard rock phosphates. Florida soluble phosphates, by I. M. Lohman. The phosphates of Tennessee, by O. C. Channon. Water phosphates, by S. M. North. Phosphates of South Carolina, Kentucky, Arizona and Virginia. Phosphates of foreign countries, by C. A. Paffen. Chemical phosphates and its manufacture. Manufacture of phosphoric acid from elemental phosphorus. The manufacture of phosphoric acid by the wet process, by W. C. Weber. Comparison of sulfuric acid and thermal reduction processes for manufacturing phosphoric acid. Purification of phosphoric acid and its salts, by W. B. Waggoner and W. T. Grace. Superphosphates, by W. C. Weber. Concentrated or triple superphosphates. Ammonium phosphates and ammoniated superphosphates, by E. W. Harvey and G. L. Fries. Other water-soluble phosphatic fertilizers. Bone ash, degraded bone and dicalcium phosphate. Colored, fused and defluorinated phosphates, by W. T. Whitney and C. A. Hatheway. Calcium and potassium metaphosphates and intermediate products. Complete fertilizers and their preparation. Phosphate knowledge agents, by H. W. Kautsky. Phosphate water-solubility and chemical products, by C. R. McCaffrey. The waters of phosphoric acid and their industrial application, by I. S. Racie. Phosphating of metals, by O. C. Rupp.

Phosphates in the manufacture and refining of clay, by V. R. Dicks and G. F. Morda. Phosphates in semiconductor products. Nitrocellulose industrial uses of phosphoric acid and its derivatives. Appendix. Index.

Note: Each of the chapters in this comprehensive treatise is a concise, up-to-date survey of the particular aspect of the subject which is named in its title and is supplemented—as is common in this series—by a substantial list of references. Especially the work is a reference book for the information of process chemists and others who are associated with the phosphate-producing and -using industries. The appendix includes a wide range of useful material including a table of phosphoric acid conversion factors, descriptions of analytical tests, and a classified list of pertinent United States patents. Chapters for which no other name is set down in the above table of contents were written by William H. Waggoner. The first edition appeared in 1927. The present edition is an extensive revision and substantial expansion of the original work.

WEST, CLARENCE JAY

Alkaline processes. Part II Black liquors. Appleton, Wisconsin The Institute of Paper Chemistry 1952 377 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 178) Paper \$10.00. 2297

Contents: Books. General articles. Analytical methods. Experiments. Communications. Communications. Lime analysis. Soda and sulfur losses. Detritation. Purification methods. Chemical processes. Instrumentation. Other. Author Index. Patent Index.

Note: An extensive listing of books and periodical articles which describe the various methods employed for the recovery and utilization of waste liquors produced in the manufacture of pulp. The 1244 references are annotated and grouped according to the above indicated subjects.

WEST CLARENCE JAY

Chemical testing methods. Part I, Viscosity of cellulose. Appleton, Wisconsin The Institute of Paper Chemistry 1952 85 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 179) Paper \$5.00. 2298

Note: The limitations on the scope of this bibliography have been stated by the compiler as follows: "Many articles dealing with the viscosity of cellulose have not been included because the most are carried out by known methods. Further articles concerned with laboratory viscosity will not be found in the following pages. More than 240 articles selected from the international literature are listed. The entries are annotated."

WILSON, PHILIP JOHNSON AND JOSEPH H. WELLS

Coal coke, and coal chemicals. New York McGraw Hill Book Company Inc., 1950. 509 p. illus. 23 cm. (McGraw Hill chemical engineering series) \$10.00. 2299

Contents: (Abstract) Introduction—the nature and scope of coal carbonization. Fuel and combustion. Characteristics of coal for carbonization. Preparation and cleaning of coal for coking. The coking process. Isopropyl coke versus high-temperature coke. Gas, tar, benzene and ammonia yields. Light oil. Coal tar. Coal carbonization products and their uses. Low-temperature carbonization processes for gas manufacture. Some low-temperature carbonization processes and the Carbur-Karrier process. Economics of the coal-coking industries. Trends in the coal-coking industry. Appendix. Subject bibliography. List of plants for the carbonization of coal in the United States. Index.

Note: As the chapter titles indicate, this is a treatise on the coking process, its products and by-products. Although many of the topics are discussed from the chemical engineering viewpoint, the effect of the whole work is that of a general treatment of the process technology and economic importance of the industry. The book is of interest to the personnel of the coking industry and to metallurgical and engineers in related industries.

Wise Louis Elsborg and Edwin C. Jahn Wood chemistry Second edition. New York Reinhold Publishing Corporation, 1952 2 v. illus. 24 cm. (American Chem-

cal Society monograph series. No. 97) Each volume, \$15.00. 2300

Contents: Volume 1. Introduction, by L. E. Wise and E. C. Jahn. Part i. The growth, anatomy and physical properties of wood; Origin and anatomy of wood, by H. F. Brown. The mechanical and physical properties of wood, by C. C. Forsyth. Part ii. Components and chemistry of the cell wall. The chemistry of the cell walls of wood, by W. M. Harlow. Cellulose—chemical evidence regarding its constitution, by L. E. Wise. Cellulose—physical evidence regarding its constitution, by H. Mark. Chemically modified cellulose, by C. R. Parvee. Cellulose solvents and the properties of cellulose in solution, by A. J. Stamm. Cellulose compounds and derivatives, by E. C. Jahn. The hemicelluloses, by L. E. Wise. The chemistry of lignin, by F. E. Brown. Part iii. The extraneous substances: Extraneous materials of wood—introduction, by L. E. Wise. The volatile oils, by E. F. Krich. Wood resins, by G. C. Harris. The tannins and coloring matters, by M. A. Buchanan. Miscellaneous extraneous components of wood, by L. E. Wise. Phenolic and other extraneous components of cadaverous heartwoods—their relation to taxonomy, by H. Krichbaum. Index, by C. J. West. Volume 2. Part iv. Surface properties of cellulosic materials: Surface properties of cellulosic materials, by A. J. Stamm. Part v. Industrial wood chemistry: Combustion of wood, by L. F. Hawley. The thermal decomposition of wood, by A. W. Goss. Wood hydrolysis, by E. E. Harris. The chemical behavior of wood, by E. C. Jahn. Alkaline delignification of wood, by W. F. Hulse. Sulfite delignification of wood, by E. Krichbaum. The lumen delignification process, by E. C. Jahn. Bleaching of wood pulp, by F. E. Varney. Part vi. Decomposition of wood by microorganisms: The biological decomposition of wood, by W. G. Campbell. Part vii. The chemical analysis of wood: Introduction and micrographic determinations, by R. L. Brexend. The polysaccharide fraction of wood—analysis of cellulose proportions and the determination of cellulose, by R. L. Brexend. The analysis of non-cellulose polysaccharides, by R. L. Brexend. The determination of (monosaccharide) groups, by R. L. Brexend. The determination of lignin, by R. L. Brexend. The analysis of cellulose proportions, by R. L. Brexend. Analytical data and their significance, by R. L. Brexend and I. H. Linsberg. Index, by C. J. West.

Notes: (1990) A standard treatise which covers wood and its chief components, such as lignin and cellulose, from the chemical viewpoint. Its lineage goes back to Wise and Hawley's *Chemistry of wood*, New York, 1924. The first edition in which there were chapters written by various contributors appeared in 1944, now in the present edition the work has been extended to two volumes, and the number of contributors substantially increased. The various chapters are literature digests and are carefully keyed to citations in the source articles. The scope is comprehensive for scientific information, but the technological aspects of wood utilization are not covered.

WOLFE, HERBERT JAY

Printing and litho inks. Fourth and completely revised, edition. New York Mac Nair Dorland Company 1949 478 p illus. 24 cm. \$7.50. 2301

Contents: The history of printing ink. General characteristics of ink. Printing ink vehicles. Solvents for ink. Pigments. Natural mineral pigments. Manufactured mineral pigments. Organic pigments. Black pigments. Resins. Driers and drying. Ink compounds. Adding agents. Typographic printing ink. Planographic ink. Lithographic printing ink. New types of printing ink. Special inks. Physics of printing ink. Factory equipment. Testing. Ink troubles and remedies. Appendix. Index.

Notes: (1971) A standard self-instruction book designed to help young men entering the printing-ink manufacturing industry and technicians already employed in it. It serves also as a self-reference book for journalists and others who occasionally need background information. Emphasis is placed on basic principles and techniques, and the industry is covered from the preparation of ink from raw materials to the testing of the finished product. Numerous formulas for specific types of ink are included. This edition gives more attention to the theory of the subject and includes a chapter on the physics of printing ink. New techniques and the preparation of new types of ink, such as moisture-set and pressure-set typographic inks, are described.

HEAT AND POWER ENGINEERING

APPLIED THERMODYNAMICS

DUBINBERRE, G M

Numerical analysis of heat flow New
York McGraw Hill Book Company Inc.
1949 227 p. illus. 24 cm \$5 00 2302

Contents: Thermal properties. Elementary combinations. Analytical solutions. Steady state, physical subdivisions. Some alternative methods. A multidimensional system. Steady state—geometrical systems—one dimension. Two-dimensional square networks. Two dimensions—networks other than square. Steady state—two dimensions—body convection. Transient flow—physical subdivisions—geometrical subdivisions—one dimension—two dimensions. Cyclic processes. Variable properties. Miscellaneous problems and topics. Bibliography. Index.

Note: The traditional approach to heat flow problems is by means of calculus method but requires that the heat-transfer medium be considered as homogeneous. The alternative approach is with the material of the heat-transfer medium is considered as finite nodes of points is expounded in this book. The numerical method, which has special application to such complicated heat-flow problems as the transmission of heat through insulated glass and heat conduction from and to buried pipes, is fully developed and many worked examples of problems are included. Frequent comparisons between the analytical method and the numerical method are made.

ECKERT ERNST R G

Introduction to the transfer of heat and
mass. With an appendix on property values
by Robert M. Drake Jr New York Mc
Graw-Hill Book Company Inc. 1950 284 p.
illus. 23 cm. \$6 00 2303

Contents: Fundamental principles of heat transfer. Heat conduction. Heat transfer by convection. Basic conceptions of the flow theory. Forced convection in laminar flow. Forced convection in turbulent flow. Free convection. Condensation and evaporation. Thermal radiation. The exchange of mass. Appendix. Index.

Note: In this relatively brief treatise the reader is shown how to obtain mathematical solutions to complex problems in heat transfer which will check with the results of empirical observations. Prandtl's boundary-layer theory is the basis of most of the work. In the final chapter transfers of mass such as occur when moist material is dried by moving streams of air are shown to be boundary-layer phenomena analogous to the transfer of heat. The book is of interest to many branches of engineering where fairly precise calculations of heating and cooling are essential.

HAWKINS GEORGE ANDREW

Thermodynamics. Second edition. New
York John Wiley & Sons Inc., 1951 563 p.
illus. 22 cm. \$6 50 2304

Contents: Fundamental concepts. The first law of thermodynamics. Solids, liquids, and gases. The ideal or perfect gas. Equations of state for real gases. Specific heat of gases. The use of tables for computing the properties of vapors. Frictionless or reversible non-steady and the Carnot cycle. Available energy. Unavailable energy and entropy. Reversible changes for reversible ideal gas and vapor processes. Mixtures of ideal gases and vapors. Combustion. The flow of gases and vapors through nozzles and orifices. Ideal cycles of internal combustion engines. Air compressors and air engines. The gas turbine and jet propulsion. Vapor cycles. Mechanical re-

frigeration. General thermodynamic equations. Introduction to heat transfer. Appendix. Index.

Note: (1911) An introductory textbook for students in engineering colleges. While the chapter arrangement and general approach remain the same as in the first edition, the new edition has been revised by the author and considerably enlarged. Six of the chapters have been completely rewritten. Many minor changes have been made in other chapters, and additions have been made to the lists of references.

HOTTEL, HOYT CLARKE, AND OTHERS

Thermodynamic charts for combustion
processes. Part I and II, by H. C. HotteI, G.
C. Williams and C. N. Satterfield. New York.
John Wiley & Sons, Inc., 1949 2 v illus. 29
cm. Part I \$2 60 Part II, \$2 40. 2305

Contents: Part I. Text. Introduction. The modified air chart. The burned mixture charts. Generalized thermodynamic charts. Appendix A: Basic thermodynamic data. References. Author indexes. Index. Part II. Charts. Appendix B: Some equilibrium gas compositions. Appendix C: Generalized thermodynamic data. Modified air chart. Burned mixture charts.

Note: A reference book for engineers who are concerned with the combustion processes in gas turbines, jet propulsion units, and rockets. In the text portions the principles of cycle calculations are explained in detail. Other methods are reviewed, and new methods devised by the authors is explained. Among the devices whose cycles are analyzed in the first part are: turbo-compressor power plant, the compression ignition (Diesel) engine, the jet engine (the second cycle), the ram jet, and single- and two-field rockets. The second part contains, in addition to the appendix material, one chart for modified air and seven charts which show the properties of products of combustion and other properties for various mixtures of hydrocarbons and air under various conditions of pressure.

HUTCHINSON, FRANCIS WILLIAM

Industrial heat transfer New York In
dustrial Press 1952 326 p. 24 cm. \$6.00.
2306

Contents: (abridged) Conduction. Radiation. Convection. Combined heat transfer. Forced convection. Appendix. Bibliography. Index in graphs. Subject index.

Note: The heart of this work is a series of graphs—113 in number—that provide direct solutions for a wide variety of problems in heat transfer. The make-up of the book places each graph on a right-hand page with explanatory matter on the facing left-hand page. This matter includes the title of the chart, the equation on which it is based, references to the articles of the text where the relationships expressed by the equation are discussed, a statement of assumed conditions, an example problem and its solution. A useful reference book for chemical engineers and others whose work includes heat transfer computations.

JAKOB MAX

Heat transfer Volume I. New York John
Wiley & Sons, Inc. 1949 758 p. illus. 24 cm.
\$12.00. 2307

Contents: (abridged) The basic equations of heat conduction. The basic equations of heat convection. The basic equations of heat radiation. Viscosity. Thermal conductivity. Radiosity (absorptivity). Heat conduction in steady state without heat sources or sinks. Heat conduction in steady state, including internal heat generation. Heat conduction in non-periodic temperature changes without heat sources or sinks. Heat conduction in periodic temperature changes without

best losses or gains. Heat conduction at variable temperature, including thermal heat generation and heat dissipation to the environment. Special mathematical methods used in heat conduction. Numerical methods for the solution of heat-conduction problems. Graphical methods for the solution of heat-conduction problems. Experimental analogy methods for the solution of heat-conduction problems. Analytical solutions of the convection equations, similarity solutions for heat convection. Experiments on free convection and their correlates. Experiments on forced convection and their correlates. Optical methods of determining heat transfer by convection. Similarity between heat convection and mass exchange. Heat transfer in convection. Heat transfer in conduction. Appendixes: Problems. Nomenclature. Convection factors. Bibliography and author index. Subject index.

Note: The first volume published of a treatise of considerable importance. The treatment is identical in the sense that the development of each important step in the understanding of heat transfer phenomena is traced back to its origin, but the account is brought down to the present time, and the final effect is statement of heat transfer knowledge as it exists today. The physical properties of matter which influence heat transfer are emphasized, and important experiments and useful experimental techniques are described in detail. The space is about evenly divided between the presentation of empirical knowledge and mathematical analysis. However, the author has included very advanced mathematical techniques, based on work, not beyond the level of advanced engineering students and graduate engineers. The bibliography although extensive is not well organized.

JAKOB MAX, AND GEORGE A. HAWKINS

Elements of heat transfer and insulation. Second edition. New York John Wiley & Sons, Inc., 1950 230 p. illus. 23 cm. \$4.00. 2308

Contents (abridged): Conduction of heat in the steady state. Conduction of heat in the unsteady state. Steady-state heat conduction in bodies with heat sources. Introduction to the dimensional analysis of convection. Heat transfer by free convection. Heat transfer by forced convection. Heat transfer in condensing and boiling. Experimental determination of convective and conductive heat transfer in temperature measurements. Heat transfer and heat exchangers. Index.

Note: (442) An introductory textbook designed for use in undergraduate courses in engineering colleges. Technically trained persons who are out of college sometimes find it useful as an introductory or reference because of its elementary discussions. Although still intended for undergraduate use, few advanced topics have been added in this edition, and the level of difficulty of the problems has been raised somewhat.

JOHNSTON, ROBERT M., AND OTHERS

Elements of applied thermodynamics. By Robert M. Johnston, William A. Brockett [and] Arthur E. Bock. Annapolis The United States Naval Institute, 1951 v. p. 24 cm. \$5.00 2309

Contents: Introduction and the first law of thermodynamics. Basic concepts and the general heat-flow process. Characteristics of gases and the non-flow gas process. Properties and characteristics for heat of state. Elementary steady flow processes. Air compression. Cycles, available energy and the second law of thermodynamics. Gas power cycles. Steam power cycles. Refrigeration cycles. Refrigeration heat exchangers. Rankine cycles. Steam turbines. Heat transmission. Heat transfer equipment. Properties of materials. Air conditioning. Reflow and condensation. Appendixes. Index.

Note: An introductory text for college engineering students. Basic principles of thermodynamics are presented with particular attention given to their application in the design and operation of industrial internal combustion engines, refrigerating machinery, boilers, and the like. Illustrative examples and problems are freely used to further emphasize the practical aspects of the subject. The treatment requires knowledge of physics and elementary calculus.

KERN DONALD QUENTIN

Process heat transfer. New York McGraw-Hill Book Company Inc., 1950 870 p. illus. 24 cm. \$10.00. 2310

Contents (abridged): Process heat transfer. Conduction. Convection. Radiation. Temperature. Convective-convective exchange. 1-2 parallel-conductance-flow heat-exchanger. Flow arrangement

means for increased heat recovery. Gases. Steam flow and free convection. Calculations for process conditions. Condensation of single vapors. Condensation of mixed vapors. Evaporation. Extended surfaces. Direct-contact transfer-cooling towers. Batch and steadily state processes. Process calculations. The control of temperature and related process variables. Appendix of calculation data. Author index. Subject index.

Note: An advanced engineering college textbook in which practical problems in heat transfer are directly related to industrial processes and industrial heat transfer apparatus. Though the fundamentals of thermodynamics are never lost sight of, the valuable and unique parts of the book are those which are devoted to discussion and calculations pertaining to such apparatus as shell-and-tube heat exchangers and to such processes as the heating or cooling of batches of materials. These apparatus calculations are brought out in special index preceding the text. The book will be valuable not only to chemical engineers but to all engineers in industry who are concerned with heat transfer problems.

SOLBERG, HARRY LELAND AND OTHERS

Elementary heat power. By Harry L. Solberg, Orville C. Cromer and Albert R. Spalding. Second edition. New York John Wiley & Sons Inc., 1952 624 p. illus. 24 cm. \$6.50. 2311

Contents: Matter and energy. Fuels and combustion. Internal-combustion engines. Fuel burning equipment. Steam generation. Steam power plant cycles. Steam turbines. Steam engines. Pumps. Drafts, fans, blowers, and compressors. Feed-water heaters and condensers. The gas-turbine power plant. Mechanical refrigeration. Appendixes. Index.

Note: (2014) An introductory textbook written so that it may be used both by college students who will take no further work in the subject and by students of mechanical engineering who will pursue advanced courses. It covers both the fundamental theory and the operating principles of the chief heat power devices. The first edition appeared in 1946 and was an outgrowth of wartime needs. The increased length of the present edition is due both to added descriptions of such devices as the heat pump and to an expansion of the theoretical material. The authors are members of the faculty of Purdue University.

STOKER, HERMAN JULIUS

Engineering thermodynamics. New York John Wiley & Sons Inc. 1951 458 p. illus. 24 cm. \$5.75 2312

Contents: Part I. The first law of thermodynamics. Pressure, specific volume, and temperature. Mechanical work and heat. The first law of thermodynamics. The internal energy and enthalpy of fluids. The analysis of simple processes. Part II. The second law of thermodynamics. Power cycles and refrigeration cycles. The second law of thermodynamics. The thermodynamic scale of temperature. Entropy. Part III. Applications. Steam power plants. Internal-combustion engines. Refrigeration. Compressors. Pumps and turbines. Vented motors, flow sections, diffusers, and jet engines. Air conditioning. Appendixes. Index.

Note: An introductory textbook for engineering college students. It is arranged so as to emphasize basic thermodynamic principles rather than characteristics of systems. The author is Professor of Mechanical Engineering at Iowa State University.

TRINKS WILLIBALD

Industrial furnaces. Volume 1. Fourth edition. New York John Wiley & Sons Inc., 1951 526 p. illus. 24 cm. \$10.00. 2313

Contents: Introduction. The heating capacity of furnaces. The fuel economy of furnaces. Heat-transfer apparatus with particular reference to industrial furnaces. Strength and durability of furnaces. Movement of gases in furnaces. Appendixes.

Note: (4964) The outstanding work on the design of furnaces used for such purposes as heat-treating and annealing of metals. Furnaces used for the melting of metals are not included. Methods of calculating heat capacities and heat losses are covered in detail. There are also valuable discussions of such topics as methods of conserving heat, furnace materials, and the design of foundations and roofs. There is considerable amount of new material in the present edition. An accurate and fairly detailed account of the changes made is given in the book's preface. For the present, complete set contains fourth edition of volume and second edition of volume 2. The two volumes can be used independently.

YOUNG VINCENT WILLARD

Basic engineering thermodynamics. New York McGraw Hill Book Company, Inc. 1952 558 p. illus. 24 cm. \$6.50 2314

Contents: Fundamental definitions and concepts. The first law and the closed system. The first law and the open system. The reversible process and the reversible cycle. The second law of thermodynamics. Entropy—property of the system. The pure substance. General thermodynamic equations for the pure substance. The perfect gas. Mixtures of gases and vapors. Steady flow of fluids—the turbine. Power-plant systems. The reciprocating steam engine. Power-plant systems. Refrigeration. The evaluation of irreversibility. The steady flow of fluids in pipes and ducts. Real gases. Thermodynamics of combustion. The transmission of heat. Appendix. Index.

Note: An introductory treatment designed for use in college courses offered to undergraduate students of mechanical engineering. The basic theory is adequately covered, and is related to familiar engineering applications. The derivations of most points are explicit and fully laid, hence more of the text can be comprehended by the student without the assistance of an instructor than of texts written in condensed style. The author was formerly Professor of Mechanical Engineering in Oklahoma Agricultural and Mechanical College.

STEAM ENGINEERING

CHURCH EDWIN FAYETTE JR.

Steam turbines. Third edition. New York McGraw Hill Book Company Inc. 1950 531 p. illus. 24 cm. \$6.50 2315

Contents: Types and characteristics. Steam-turbine cycles. Flow of steam in nozzles. Nozzle properties and tests. Impulse-blading velocity diagrams. Impulse-blading properties. Reaction-blading velocity diagrams and blading properties. Effects of size, capacity, speed, and steam conditions on the arrangement of turbine elements. Aerodynamic considerations. Elements of superheated flow. Vibration. Structural elements, materials, and stresses. Losses. Efficiency re-land factor and condition line. Output variables and governing. Turbine performance. Design. Problems. References. Index.

Note: (1949) A standard engineering college textbook. In this edition much new material, both textual and pictorial, has been added, and some of the material in the earlier editions has been deleted. The level of treatment has been raised somewhat so that the book is now suitable for use by graduates as well as advanced undergraduate courses. Also, it will now be more useful to engineers out of school who are in need of an introductory and up-to-date survey. The bibliography covers paper back, consists mainly of periodical articles published in the last decade.

GAFFERT GUSTAF A.

Steam power stations. Fourth edition. New York McGraw Hill Book Company Inc. 1952 637 p. illus. 24 cm. \$8.00 2316

Contents: Introduction. Equipment of power stations. Steam engines. Steam turbines. Heat transfer. Condensers. Feed-water heaters and evaporators. Feed-water treatment. Fuels and combustion. Steam-generating units. High pressure and binary-cycle boilers. Dust collectors. Economizers and air heaters. Superheaters and reheaters. Fuel-burning equipment. Ductwork and piping. Draft systems. Coal and ash handling. Pumping equipment. Steam-turbine units. Load curves and plant location. Selection of prime movers and steam-generating equipment. Cycle arrangements. Binary vapor cycles. Station design. Index.

Note: An engineering college textbook which has been widely used since the publication of the first edition in 1937. It provides thorough introductory treatment in which theory and description are combined. Steam-operated prime movers, steam-generating equipment, power house auxiliary machinery, steam power economy, power station layout, etc. are covered, but the structural design of power houses and electrical machinery are omitted. In other words, the scope is steam-generating machinery and the machines which are auxiliary to steam generation. In comparison to the third edition, the book has been rather extensively revised.

POTTER, PHILIP JOHN

Steam power plants. New York The Ronald Press Company 1949 503 p. illus. 24 cm. (A volume of a series in mechanical engi-

neering. Burgess H. Jennings editor) \$7.00.

2317

Contents: Introduction. Flow of fluids. Pumps. Theory of heat transfer. Fuels and combustion. Steam properties. Boiler auxiliaries—fuel burning equipment—draft equipment—boiler treatment. Heat exchangers—condensers—feedwater heaters—economizers and air heaters. Heat exchangers. Steam turbines. Steam engines. Heat balances. Economics of steam power plants. Appendix. Index.

Note: An engineering college textbook in which the emphasis is on the fundamental principles of fluid flow heat transfer, etc., rather than on the description of large scale power plant equipment. However the operating principles and characteristics of considerable range of typical equipment are described. There is also fair amount of material on the classification and analysis of fuel. The chapters are supplemented by good lists of problems and by short bibliographies.

SALISBURY, JOHN KENNETH

Steam turbines and their cycles. New York John Wiley & Sons Inc. 1950. 645 p. illus. 23 cm. \$9.00 2318

Contents (abridged): Part I. Fundamentals of turbine design: Power-plant cycles. Flow of fluids. Turbine selected characteristics. Steam efficiency. Design of turbine stages. Steam plant design. Part II. The reheat cycle. Reheat cycle. Characteristics and performance. Modern heat-balance practice. Characteristic line balance. Shortcuts to turbine-cycle heat rate. Part III. Cycle analysis: Reheat cycle losses. Cycle analysis for homogeneous arrangements. Turbo-compressor. Other turbine arrangements. Distribution line. Distribution line in reheat boilers. Turbine efficiency and power-plant loss. Miscellaneous cycle corrections. Part IV. Applications: Engineering. Design details. Estimating steam costs. Estimating heat rates. Appendix. Index.

Note: A substantial treatise on the engineering aspects of steam turbines. The subject is treated mainly from the standpoint of design, but much of the information is of interest also to engineers applying or with general supervision of power plant operation and maintenance programs. Adequate attention is paid to thermodynamics and fluid flow and much emphasis is given to cycle analysis. The section on the reheat cycle is considerable in extent of paper back, which preceded before the American Institute of Mechanical Engineers in 1943 was the leading model for the best original contribution of the year. There is also paper selected bibliography.

WOODRUFF, EVERETT BOWMAN AND HERBERT B. LAMMERS

Steam-plant operation. Second edition. New York McGraw Hill Book Company Inc. 1950. 543 p. illus. 25 cm. \$8.00. 2319

Contents: Boilers. Construction of boilers. Combustion of fuels. Settings, combustion equipment, and heating surfaces. Boiler auxiliaries. Operation and maintenance of steam boilers. Pumps. Reciprocating steam engines. Valve-operating mechanism. Operation and maintenance of steam engines. Construction of steam turbines and auxiliaries. Operating and maintaining turbines and auxiliaries. Auxiliary steam plant equipment. Appendix. Index.

Note: (1933) A standard work for stationary engineers and for men. It provides fairly comprehensive description of present-day steam plant equipment, together with clear explanation of such matters as the principles of combustion and the practice of such matters as boiler operation. This edition has been extensively revised and enlarged to cover advances since 1933. Particular attention is given to the operation of new types of equipment; thus the chapters on the boiler and boiler construction now include discussions of heat-recovery equipment, steam superheaters, new types of boilers, duct-burner equipment, etc. The chapter on fuel combustion has been doubled in length, and the description of steam turbines now runs to two chapters. Review questions and problems are again included.

ZERRAN ALEXANDER HAMILTON AND EDWIN P. NYE

Steam power plants. Scranton International Textbook Company 1952 524 p. illus. 24 cm. \$7.50 2320

Contents: An introduction. The steam power plant cycle. Fuels. Combustion. Steam cycle heat transfer. Furnace heat transfer. Steam generators. Steam prime movers. Fluid handling. Instruments and controls. One of heat transfer surfaces. Power plant economics. 2-*power plants*. Appendixes. Index.

Note: A book designed primarily for use as a text for upper-level college students of mechanical or electrical engineering. It provides thorough and reliable statement of the fundamental aspects of steam power and detailed description of typical station generators and related devices. Construction and maintenance also are covered. The building and subsequent changing of large modern boilers are described in detail. The chapter on the care of heat transfer surfaces (that is, boiler treatment, boiler maintenance, etc.) is one of the best ever in the book. The authors are members of the faculty of Pennsylvania State College.

GAS AND OIL ENGINES

ADAMS ORVILLE LEWIS, SR.

Elements of Diesel engineering. Second edition. New York The Norman W Henley Publishing Co., 1949 367 p illus. 21 cm. \$5.00 2321

Contents: Diesel definitions. Diesel engine mechanisms. Fundamental engine cycles. Fuel injection systems. Combustion and heat distribution. Rating, testing and performance. Air intake and supercharging. Interpretations of Diesel indicator diagrams. Diesel fuel and lubricating oils. Fuel properties and engine performance. Appendixes. Miscellaneous, units and elementary theory. The author's study of elementary engine cycles. Combustion and heat distribution in the internal combustion engine. Fuels. Tests in specifying lubricating oils. Index.

Note: A thoroughly revised version of the author's previous study published under the same title in 1934, this work is practically new text. It contains only a small part of the former discussion, revision, and offers much new material in addition to advances in the field to date. The whole has been organized into a lucid, more compact exposition.

ANDERSON JOHN WALLACE

Diesel engines. Second edition. New York McGraw Hill Book Company Inc. 1949 556 p. illus. 23 cm. \$8.50 2322

Contents: Introduction. History. Theory. Design characteristics. Design details. Automotive engines. Industrial power engines. Marine engines. Stationary engines. Railway engines. Storing, charging, and supercharging. Combustion chambers. Fuel injection systems. Governors, control, and safety equipment. Cooling and water-casting systems. Lubrication and lubricating systems. Fuels and fuel systems. Starting systems. Waste-heat utilization. Lubrication. Operation and maintenance. Performance and cost of operation. Aids to the selection of an engine. Index.

Note: A survey in which the chief engineering problems and practices in contemporary Diesel engines, the chief use of these engines, and the features of the chief engines are all covered. These subjects are treated from the viewpoint of American engineering. Much of the material is descriptive, but it is written for engineers who are concerned with the selection and maintenance of Diesel engines. There is considerable emphasis on design problems. A large amount of measurement and working is evident in this volume. The number of illustrations has been decreased from 384 to 454.

DUBINKER, G M

Gas turbine power. Scranton Pa. International Textbook Company 1952 256 p illus. 24 cm. (International textbooks in mechanical engineering, C. Fayette Taylor consulting editor) \$6 00 2323

Contents: An introduction. Thermodynamics. The basic gas turbine cycle. Variations on the basic cycle. Air flow. Turbine components. Combustion. Heat transfer. Part-load operation. Further variations of the basic cycle. Appendix: Tables. Bibliography. Index.

Note: Thermodynamic and heat balance aspects of the gas turbine are emphasized in this book. Design aspects such as the stiffness of turbine blades are covered also. Applications to small turbines such as are used in airplane engines are not precluded; instead, the book is written so that most of its contents are applicable to large stationary turbines as to the smallest ones in use. The treat-

ment is introductory to the subject and the book is designed primarily for students in engineering colleges who have completed basic courses in thermodynamics, heat transfer, strength of materials, etc. The bibliography contains about 150 references.

GEORGE, CARL W

Motor oils and engine lubrication. New York Reinhold Publishing Corporation 1950 514 p. illus. 23 cm. \$9 50 2324

Contents (selected): Classification, definitions and specifications. Specification tests and their significance. Viscosity and viscosity index. Evaluation of performance characteristics of motor oils. Oil refining. Motor oil additives. Synthetic oils. Motor oil consumption characteristics. Engine sludge deposits. Aircraft engine lubrication. Stationary marine, and two-cycle engine lubrication. Select index.

Note: A comprehensive survey of the current knowledge of lubrication requirements and problems in internal combustion engines. About half of the volume is devoted to discussion of the production, analysis, and testing of lubricating oils produced for engine lubrication. The remainder is devoted to performance of oils in engines, especially automotive engines, although there is some discussion of stationary engines. The book is written for engineers and other persons with technical training. The text is supplemented by 100 tables, 160 illustrations, and selected references to pertinent literature.

GILL PAUL W., AND OTHERS

Fundamentals of internal combustion engines as applied to reciprocating, gas turbine, and jet propulsion power plants, by Paul W Gill, James H. Smith, Jr., and Eugene J. Zlurys. Second edition. Annapolis, Md. The United States Naval Institute, 1952 535 p. illus. 24 cm. \$5.00. 2325

Contents: Introduction to reciprocating engines. Engineering thermodynamics. Power cycles. Engine power. Fuels. Carbonization. Spark ignition. Combustion in the SI engine. Cold-air spark ignition engine performance. The compression ignition engine and fuel injection. Combustion in the CI engine. Compression ignition engine performance. Comparison of SI and CI engines. Lubrication. Theory and fundamentals of gas turbine engines. Theory and fundamentals of jet propulsion engines. Hydrogen peroxide for gas-turbine power. Nuclear power for ship propulsion. Bibliography. Appendixes. Example problems. Air charts. Development of equations. Aircraft measurements. Index.

Note: This textbook was prepared primarily for use in courses given to first year students at the U. S. Naval Academy. It is a presentation of the basic theory, fundamental principles, and performance characteristics of the three major categories of internal combustion engines, covering the mechanisms of the various component parts of these engines, the capabilities and limitations of the various types of power plants, current developments, and future applications. The text is arranged in two parts. The first covers the reciprocating types of internal combustion engines, and the second is devoted to the gas turbine, particularly as applied to shipboard installations and the jet propulsion field. The latest types of gas-turbine plants, namely hydrogen peroxide and nuclear power, are covered briefly. At the ends of the chapters are bibliographical references and problem exercises.

LICHTY LESTER CLYDE

Internal-combustion engines. Sixth edition. New York McGraw Hill Book Company Inc., 1951 598 p. illus. 24 cm. \$7 00 2326

Contents: The internal-combustion-engine process. Thermodynamics for engine analysis. The combustion process. Air-standard cycle analysis. Internal-combustion-engine-process analysis. Deviations from ideal processes. Fuels. Combustion knock and knock rating. Combustion and fuel injection. Manifold and mixture distribution. Valve and valve mechanism. Timing of the charge. Combustion-chamber design. Engine lubrication. Heat transfer and engine cooling. Engine performance. Mechanics of principal engine parts. Engine vibration and balance. Engine design. Appendix. Index.

Note: (4014) A long-established engineering college textbook. Its coverage of specific topics, such as engine vibration and balance, is sufficiently inclusive to make the book useful to graduate engineers who find themselves in need of an introductory discussion. A special feature is the inclusion of charts that depict the results of numerous laboratory experiments and measurements on

Contents: Characteristics and definitions. Rocket history. Nozzle theory and thermodynamic relations. Rocket propellant performance calculations. Liquid rocket propellants. Liquid rocket motor. Liquid propellant feed systems. Flight performance. Rocket testing. Solid propellant rockets. Index.

Note: Engineering students and graduate engineers who are preparing for work in connection with rocket and jet engine development are the intended audience for this book. The author has assumed that his readers will have knowledge of basic physics, thermodynamics, and chemistry. The basic principles and considerations of rocket design are presented, and there are numerous descriptions and illustrations of rockets and rocket parts. Reference lists in the related book and periodical literature accompany the chapters.

WILMPRESS, R. N.

Internal ballistics of solid fuel rockets—military rockets using dry-processed double-base propellant as fuel. New York McGraw Hill Book Company, Inc. 1950 214 p. illus. 24 cm. \$3.00 2334

Contents: Monomers. Relation of internal to external ballistics. Characteristics of propellant gases. Burning properties of propellants. Study of the law of conservation of mass. Nozzle performance. Flow of gas under rocket nozzles. Determination of reaction pressure in rocket nozzles. Design of propellant grains. Characteristics of burning in perforation. Ignition. Effect of physical properties of propellant on ballistics performance. End burning grains. Static testing equipment. Load transfer. Index.

Note: The contents of this book were developed largely in experimental investigations at the Calhoun Bureau of Technology under contract with the Office of Scientific Research and Development during World War II. They provide clearly in the types of rockets fired from aircraft rocket launching equipment in the course of land and naval operations. No attempt was made to incorporate knowledge obtained by projects outside the project and there is no bibliography; nevertheless, the book represents significant contribution to the subject.

ATOMIC ENERGY

GLASSTONE, SAMUEL AND MILTON C. EDLUND

The elements of nuclear reactor theory. New York D Van Nostrand Company Inc. 1952 416 p. illus. 24 cm. \$4.80. 2335

Contents: Nuclear structure and stability. Nuclear reactions. Production and reactions of neutrons. The fission process. The diffusion of neutrons. The slowing down of neutrons. The two-component model of neutron (neutron balance) by Fermi age theory. Homogeneous reactor with reflection—the group-diffusion method. Heterogeneous (natural neutron) reactors. Time behavior of bare thermal reactor. Reactor control. General theory of homogeneous multiplying systems. Perturbation theory. Transport theory and neutron diffusion. Index.

Note: An introduction designed specifically for the instruction of students engineers and physicists who are preparing for practical work in connection with the design or operation of nuclear reactors. It was based upon the course of lectures originally given by M. C. Edlund at the Oak Ridge School of Nuclear Technology. The first four chapters cover background information on nuclear reactions. The rest of the book is largely mathematical exposition of nuclear chain phenomena and reactions and of reactor control. Although not the first work for scientists and engineers in the field, it does contain a range of information which was still classified when the earlier publications were written and therefore is not represented in these.

GOODMAN, CLARK, editor

The science and engineering of nuclear power. Cambridge Addison-Wesley Press, Inc. 1949-52 2 v. illus. 27 cm. \$15.00 2336

Contents: Volume 1, Introduction to pile theory; Fundamentals of nuclear physics, by R. D. Brown. The fission process, by M. Zisch. Neutron diffusion, by V. F. Wootton. Nuclear chain reactions, by E. P. Wigner. Elementary pile theory, by F. L. Friedman. The application and experimental basis of pile theory, by R. T. Felt. Chemistry of the fission process, by C. D. Coryell. Control and operation of pile, by W. J. Gossard. Construction of nuclear

reactors, by C. Gossard. Heat transfer, by R. E. Gilliland. Heavy elements and nuclear fuels, by J. W. Irvine. An Appendix Table of physical constants. List of energy in chain reactions. Neutron cross sections of the elements, by R. K. Adair. List of illustrations. Index. Volume 2, Source materials for nuclear power, by R. D. Parks. Isotope separation, by K. Cohen. Vacuum techniques in nuclear engineering, by F. C. Armstrong. Theoretical basis of some measurements used in pile design, by F. L. Friedman. Research in nuclear physics at Oak Ridge, by R. W. Gossard. Calculation of neutron distribution in heterogeneous piles, by A. M. Wachsberg. The concept of albedo in elementary diffusion theory, by G. Placzek. Pile kinetics, by H. Swadlow. Statistical aspects of pile theory, by F. de Hoffmann. Heat removal from nuclear reactors, by R. E. Gilliland and others. Reactors and other thermal piles using nuclear energy by H. Swadlow. The shielding of nuclear reactors, by M. L. Gellinger. Effects of radiation on materials, by A. O. Allen. Production of radioisotopes, by J. W. Irvine. Pile materials—metals, alloys and compounds, by A. R. Kaufman. Health physics—instrumentation and human reactions, by R. D. Evans. Future developments in nuclear energy, by C. Gossard. Appendixes. Index.

Note: (1) The first volume of this work was originally published in 1947 and appeared in second edition in 1951. The second volume was published in 1949. The main change in the second edition of Volume 1 is in the addition of the third appendix, reprinted from Reviews of modern physics, July 1950. Both volumes are considered of scientific value and are considered a series of articles at the elementary level of the Technology. The style is advanced and the books are addressed to graduate students and graduate engineers. We have considerable proportion in mathematics and basic physics. The books were prepared for publication by the Technical Office of the United States Atomic Energy Commission.

SODAK, HARRY AND EDWARD C. CAMPBELL

Elementary pile theory. New York John Wiley & Sons Inc. 1950 73 p. 23 cm. \$3.00 2337

Contents: Cross sections. Slowing down of neutrons. Slowing-down density. Slowing down with absorption. Introduction to diffusion theory. Solution of diffusion equations—boundary conditions. The albedo. Space distribution of neutrons in a reactor. The pile equation. Critical pile dimensions for simple pile shapes. The neutron cycle. Pile with reflection—group theories. Two-group theory. Pile control. Time-dependent pile equations. Pile kinetics—transient behavior. Index.

Note: A brief presentation of knowledge pertaining to the design and the phenomena of radioactive piles constructed for the production of radioactive isotopes and fissionable elements. It is based on series of lectures which were delivered by Dr. Sodak in connection with training program for staff members at the Oak Ridge National Laboratory (Chalk Laboratories) during 1944 and 1947. Only the fundamental portion of the lecture is contained in this book, but this portion is particularly useful to graduate physicists and other scientists as well as to basic workers.

AUTOMOBILES

ASHBURN, ANDERSON

Automotive trouble shooting and maintenance. New York McGraw Hill Book Company Inc. 1950 303 p. illus. 24 cm. \$4.75 2338

Contents: General procedure. Electrical system. Fuel system. Cooling system. The engine. The power train. The chassis. List of useful data. Index.

Note: A fully detailed guide to "trouble shooting" of faults in automobiles intended for the instruction of students in vocational school systems. The volume ranges from common troubles and repairs is covered, but the book is short on information about automatic transmissions, although it does contain some discussion of overdrive. The book is written of Automobile trouble shooting, an official text of the Ordnance School of the United States Army.

ATHANSON, WILLIAM T.

Automobile body repair and paint guide. New York D Van Nostrand Company Inc., 1952 95 p. illus. 19 cm. \$2.00 2339

Contents: Book 1, Automobiles. General repair guide; Glossary—terms used in automobile body and fender repair trade. Common names of automobile body panels and sections. Techniques in paint-

mobile body repair. Book 22, Automobile paint guide: Glossary—terms used in automobile painting trade. Automobile paint guide. Helped hints, short cuts, time saving methods. Subject index.
Note. A brief book of elementary information and practical suggestions. Terms, tools, and practical techniques are described for beginners in the trade. The author is General Manager of the Parts and Refinishing Materials Division of the Briggs Manufacturing Company.

CROUSE, WILLIAM HARRY

Automotive electrical equipment, its operation and maintenance. Second edition. New York McGraw Hill Book Company Inc. 1950 330 p illus. 24 cm. \$4.50 2340

Contents (abridged) The language of electricity The storage battery Cranking motor fundamentals Theory of regulated operation Generator service. Ignition The gasoline engine and fuel requirements The ignition system Ignition timing instruments Switched. Indicating devices Headlights Accessories Appendix Index.

Note. (4024) A practical guide to the servicing and maintenance of automotive electrical systems for automotive mechanics and students preparing for this occupation. The instructions for testing, adjusting, and repairing electrical systems and devices of motor cars, trucks, and buses are described clearly and in detail, and the descriptions are accompanied by numerous diagrams and photographs. The book is written in a simple concrete style that makes it suitable for self-instruction as well as for study in organized classes. In this edition the basic principles of electricity are discussed in more detail, and chapters have been added on the servicing of direction signals, electric windshield wipers, radios, convertible top lifters, heaters, and defrosters. As an aid for self-study review questions are now included in each chapter.

CROUSE, WILLIAM HARRY

Automotive mechanics. Second edition. New York McGraw Hill Book Company Inc., 1951 774 p illus. 24 cm. \$6.50 2341

Contents (abridged) Introduction, by C. F. Kettering The engine Fuel system Engine lubrication system Engine cooling system. The electric system Engine service Clutches Clutch service Transmission Propeller shaft and universal joints. Rear axle and differential Springs and shock absorbers Steering system Brakes. Tires Car frame and body Assembly equipment Shop position. Appendixes Exhaust gas analyzers Electrical service procedures for passenger cars with Delco-Remy electrical equipment. Wiring for buses and other motor vehicles.

Note. (3033*) A basic yet comprehensive text for apprentice mechanics covering the construction, operation, maintenance, disassembly and repair of automobiles. The detailed servicing and repair procedures are based on manufacturer shop manuals, and are supplemented with numerous illustrations. The scope and arrangement of this volume have not been changed, but the material has been brought up to date in technical equipment and servicing methods developed since 1944. This is particularly true of the chapters on transmissions where the number of pages has been almost doubled.

EVEREST RALPH JAY

Motor tune up manual. New York The Macmillan Company 1949 355 p illus. 22 cm. \$6.00 2342

Contents: The field of motor tune-up Basic principles Storage battery Battery maintenance Ignition Spark plugs Fuel pump Carburetors. Fuel Engine principles. Motors Generators Voltage regulators Motor tune-up procedure Glossary of trade terms Index.

Note. A practical book on "tune-up," or the adjustment of present-day automobile engines so that they will render maximum performance. It is intended for the use of automobile mechanics and students in trade schools. The various elements of systems that affect engine operation such as the carburetor are discussed concisely from the mechanic's viewpoint with, of course, the major emphasis on the correction of trouble. The final chapter includes brief directions on the use of various instruments that have been developed to facilitate engine tune-up.

FRAZEE IRVING AND OTHERS

Automotive electrical systems. By Irving Frazee William Landon and Ernest Venk. Contributors Raymond Jonassen Bennis

Mirkin and Edward D. Spicer Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1952 436 p. illus. 22 cm (Automotive series, edited by Irving Frazee and Earl L. Bedell) \$4.90. 2343

Contents: Electricity and magnetism. Storage batteries. Generation. Generator circuits and regulators. Generating system trouble shooting. Starting systems. Lighting systems. Therm and shock. Instruments and gauges. Index.

Note. A book which is suitable for use as text in vocational courses and as self-instruction guide for beginning mechanics. No previous knowledge of electrical principles is assumed, hence instructions and terminology are included along with practical and adequately full discussions of present-day automotive electrical systems, test instruments, and maintenance and repair procedures. There is a generous number of well-reproduced illustrations. The authors are prominent men in technical writing and vocational teaching.

FRAZEE IRVING AND OTHERS

Automotive fundamentals by Irving Frazee Ernest Venk George Hafferkamp, William Landon and John H. Zieh. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1949 538 p. illus. 22 cm. (Automotive series, edited by Irving Frazee and Earl L. Bedell) \$4.90. 2344

Contents: Part I, Fundamentals of science. Part II, Operating principles. Automotive vehicles. Engines. Fuel systems. Ignition systems. Electrical systems and instruments. Power train. Brakes. Suspension and steering. Steering control, wheel alignment, and thrust. Index.

Note. A well-planned, practical illustrated textbook for use in vocational schools and other organized courses offered by students preparing for practical work in automobile maintenance. The authors and editors are prominently connected either with automobile manufacturing or with technical education.

FRAZEE IRVING AND OTHERS

Automotive maintenance and trouble shooting. By Irving Frazee William Landon and Ernest Venk. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1952 414 p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) \$4.75 2345

Contents: Maintenance, by I. Frazee and E. Spicer. Electrical systems, by I. Frazee and R. Jonassen. Gasoline engines, by I. Frazee and E. Spicer. Motors. Generator fuel system, by I. Frazee and E. Spicer. Battery ignition, by I. Frazee and E. Spicer. Ignition. Brakes, by I. Frazee and E. Spicer. Cooling system, by I. Frazee and E. Spicer. Instruments, by I. Frazee and E. Spicer. Steering control and tire wear, by I. Frazee. Brakes, by I. Frazee and E. Spicer. Index.

Note. Another volume in carefully planned series for vocational school students and beginning automobile mechanics. It is written in simple style and is organized so as to facilitate both self-instruction and reference use. The text is supplemented by numerous clearly reproduced illustrations. Although not additional to the fundamentally automobile owner who intends to buy own automobile repair, the book is suitable for this market of mechanic also.

FRAZEE IRVING AND OTHERS

Automotive suspensions steering and wheel alignment. By Irving Frazee, William Landon and George Hafferkamp. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1951 330

p. illus. 22 cm. (Automotive series edited by Irving Frazee and Earl L. Bedell) \$4.50
2346

Contents: Springs. Shock absorbers. Axles. Independent front suspension. Steering parts and linkage. The factors of wheel alignment. Effects and influence. Measurement of wheel alignment factors. Diagnosis of wheel alignment. Corrections and adjustments. Wheel alignment specifications. Index.

Note: As with other books in the series, this volume has been prepared in close collaboration with the manufacturers of the various types of equipment under discussion. The treatment is detailed and the descriptions of mechanisms, inspection, and repair procedures are supplemented with many excellent illustrations. Emphasis is placed on wheel alignment techniques and extensive tables of specifications are included. The book is intended to aid young automobile mechanics both as a reference manual and as a self-instruction text.

KUNS RAY FOREST

Automatic transmissions, principles and maintenance. Milwaukee The Bruce Publishing Company, 1951. 466 p. illus. 24 cm. \$5.00. 2347

Contents: Automatic transmissions—hydraulic drives. Batch drive—automatic transmissions. Clutchless automatic transmissions—power-shift torque convertors. Clutchless automatic transmissions—power shift drive. Ford-Mercury automatic transmissions. Oldsmobile hydraulic drive. Packard automatic drive—torque converter design. Studebaker automatic transmission. Index.

Note: The automatic transmission now used on considerable number of American automobiles are described in this book. Operating principles are explained and the various makes of transmissions are described specifically and in detail. Maintenance and repair instructions are included for most of the transmissions. The book is useful as background information for automobile mechanics. It may be used as text or be studied for preparation for work on automatic transmissions or as supplement to manufacturer's repair manuals. There are more than 320 illustrations and most of these are reproductions of photographs of transmission parts or of repair operations on transmissions.

PACKER, CLARENCE EDWARD

Automotive body and fender repairs. Third edition. Chicago The Goodheart Willcox Company Inc., 1951. 354 p. illus. 23 cm. \$3.50. 2348

Contents (abridged): Locating and laying out shop. Cleaning the equipment. Fundamentals of metal working. Principles of soldering. Use of oxy-acetylene welding. Arc and spot welding. Establishing sheet metal. Fender repairing. Panel replacement. Servicing doors. Servicing locks. Cleaning upholstery. Servicing folding tops. Flack coating. Reconstructing the roof of repair body. Industrial paint drying. Surface preparation. Priming and patching. Spotting leather and synthetic material. Painting over old finishes. Refinishing commercial vehicles. Principles of glass service. Fundamentals of upholstery work. Frame straightening. Index.

Note: A successful instruction manual designed for use in vocational school courses and also as a reference book for beginners in the trade. It is linked to descriptions of practical techniques and to "advice" on the management of automobile body repair business. The techniques of operations such as the painting of detailed finish are described explicitly but there is no discussion of the background metallurgy. There are 180 figures, practically all of which depict rebuilding or refitting operations.

PURVIS, JUD

Auto mechanic's manual on brakes and steering including wheel alignment. Chicago The Goodheart Willcox Company Inc., 1951. 175 p. illus. 22 cm. \$3.50. 2349

Contents: Part I: Brakes and why they brake. Brake construction. Hydraulic brakes. Brake types. Power brakes. Brake service and adjustment. Trouble shooting. Part II: Steering control and wheel alignment. Panel wheel alignment. Adjustment and correction. Power steering. Index.

Note: A practical manual in which the fundamental principles of automobile brake and steering systems are given equal emphasis with specific instructions on adjustment and repair operations. It

is introductory and complementary to the repair manuals issued by automobile and brake manufacturers for specific models. The terminology is relatively simple and there are many clear illustrations, well-reproduced in large scale. The author is technical editor of *Motor Service*.

TOBOLDT, WILLIAM KING

Automobile body rebuilding and refinishing. Scranton, Pa. International Textbook Company, 1950. 464 p. illus. 21 cm. \$5.00
2350

Contents (abridged): Part I: The rebuilding shop and its basic operations: Planning the layout. Repairing to damaged metal. Repair methods. Welding. Part 2: Rebuilding methods: Repair to wrecked automobiles. Repairing damaged frames. Part 3: Repairing individual parts: Miscellaneous repair operations. Stub-reinforced bodies. Part 4: The paint shop. Part 5: Preparation for spray painting: Cleaning and paint-removal. Masking. Part 6: Spray painting: Types of finishes. Causes of spray-painting troubles. Index.

Note: All of the operations in rebuilding and refinishing of damaged automobile bodies are covered in sufficient detail for practical use in body shops. Use of modern tools such as strapping hammers and hydraulic straightening equipment are described. The text descriptions are supplemented by numerous photographs and line drawings. The sections on painting account for approximately four-fifths of the book's length and are outstanding for their many practical points.

VINK, ERNEST, editor

Automotive engines maintenance and repair. Co-ordination of illustrations by Arthur E. Burke. Chicago American Technical Society 1951. 381 p. illus. 22 cm. (Automotive series, edited by Irving Frazee and Earl L. Bedell) \$4.50
2351

Contents: Operating principles. Cleaning and servicing. Disassembly. Cylinder heads and oil pans. Cylinder block and crankcase. Crankshafts and flywheels. Pistons and connecting rods. Valves and valve-operating mechanisms. Engines lubrication, cooling, and servicing. Assembly. Reconnecting. Index.

Note: A well-organized and admirably illustrated textbook. It has been prepared with the aid of considerable body of lectures in vocational education and the automotive service industry. It is designed principally for use in vocational school courses offered to young men who are studying to become automobile mechanics. A special advantage over other books on the same subject is the inclusion of full descriptions of present-day methods of repairing and maintaining modern high precision engines.

WOHLFEL, THEODORE A., AND OTHERS

Automobile body reconditioning. New York McGraw Hill Book Company Inc. 1952. 157 p. illus. 26 cm. \$3.60. 2352

Contents: Body head tools and their application. Welding equipment and methods of application. Basic metal-strengthening techniques. Types of body-panel alignment. Use of hydraulic body jacks. Body-panel strengthening. Body-panel removal and replacement. Priming equipment and techniques. Upholstery replacement. Damage estimating. Index.

Note: A well-organized and thoroughly illustrated textbook for students in vocational schools and technical courses in high schools and the apprentice mechanics in the automobile body rebuilding trade. All procedures are described in standard steps. The book is very generously illustrated. The illustrations are reproductions of line drawings or of photographs, and they have been well chosen.

FUELS AND COMBUSTION

AYRES EUGENE AND CHARLES A. SCARLOTT
Energy sources—the wealth of the world.
New York McGraw Hill Book Company Inc., 1952. 344 p. illus. 24 cm. \$5.00
2353

Contents (abridged) Energy over primitive hearths. How much petroleum. How much coal. How much of other fossil fuels. Factors of energy use. Waste. Life expectancy. The urban power from the sun. Windmills. How much vegetation. Rain. Wind and tide. Energy balance sheet. Appendixes. Bibliography. Index.

Note. A very readable study of the energy sources available to mankind. Discussions of coal, oil, and natural gas take up about half of the space and the rest is devoted to such topics as radioactive materials, direct use of solar energy, the use of vegetation as fuel, and the power in wind and waves. The authors come to the conclusion that available energy needs will have to be met sooner than is generally supposed by the use of solar energy. They imply that more research could well be done in this field. A wide range of data on fuel resources and other energy topics is included.

BURKHARDT CHARLES H.

Domestic oil burners. Installation and servicing. New York McGraw Hill Book Company 1951 359 p. illus. 24 cm. \$6.25 2354

Contents (abridged) High-pressure gas type burners. Low-pressure modulating burners. Rotary burners. Vaporizing burners. Determining the gallon-per-hour rate of the oil burner. Short methods of calculating gallon-per-hour rates for oil burner installations. Combustion chambers. Installation of tanks and piping. Automatic oil-burner controls. Control systems. Zone control. Adjusting for higher combustion efficiency (CO) and stack temperature. Adjusting for higher combustion efficiency (drift). Fuel for the new oil burner. Combustion problems. Exhaust. Oil-oil consumption. Servicing vertical safety wall frame burners. Basic oil-burner service methods. Index.

Note. Ideas just entering the oil burner servicing field and standard practices for the industry for this book. The chief types of oil burners, residential types of controls, and the common servicing operations are described practically and simply. There are many descriptions of the mechanisms of specific burners and controls, but the author has not attempted to describe the mechanisms of all such devices on the market. The book is based on articles of articles that appeared in the *Sheet Metal Worker and the Plumbing and Heating Journal* from 1947 to 1950.

COWARD H. F. AND G. W. JONES

Limits of flammability of gases and vapors. Washington D C Government Printing Office 1952 155 p. illus. 26 cm. (United States. Bureau of Mines Bulletin 503) Paper \$0.60 2355

Contents Determinations of limits. Some theoretical considerations. Limits of individual gases. Limits of mixed flammable gases and vapors. Summary of limits of flammability. Bibliography. Index of authors cited. Index of subjects.

Note. The results of investigations of certain chemical and physical factors connected with the initiation and propagation of flames in different gases under various conditions are presented in this reference work. This is the fourth edition of it. It includes 135 different substances in the summary of flammability limits in air and in oxygen as compared with 74 in the first edition.

FIELDNER ARNO CARL AND W. A. SELVIG

Methods of analyzing coal and coke. Washington D C Government Printing Office 1951 51 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 492) Paper \$0.50 2356

Contents Introduction. Preparation of laboratory sample with preliminary drying. Method of calculating and reporting analyses. Preparation of laboratory sample without preliminary air-drying. Relative merits of the two methods. Total moisture determination for lump coals. Methods of analysis. Determinations of the volatile value of coal. Volatility of coal ash. Tolerances. Determinations of approximating index of coal. Compositions of coals by rank. Determinations of true specific gravity of coal and coke substance. Determinations of apparent specific gravity. Shrinker test for coke. Tumbler test for coke. Determinations of free swelling index of coal. Determinations of approximating value of coal. Analysis of coal and coke ash. Determinations of ferric oxide, ferrous oxide, and metallic iron in coal-ash clays and clinkers.

Note. Information is here provided on the methods currently used in the laboratory of the Bureau of Mines for analyzing coal and coke and determining their heating values.

HANDBOOK OF OIL BURNING. Frank H. Faust, editor in-chief, G. Theodore Kaufman editor. New York Oil-Heat Institute of America, 1951 978 p. illus. 24 cm. \$10.00. 2357

Contents. Section 1, Oil as fuel. Section 2, Combustion of fuel oil. Section 3, Preparing oil for combustion. Section 4, Oil burning equipment. Section 5, Elements of the heating system. Section 6, Controls. Section 7, Selection of oil pump. Section 8, Application, installation and maintenance of oil burners. Section 9, Maintenance. Bibliographies of authors and editors. Index.

Note. A comprehensive work designed not only for the use of engineers but also for heating contractors and others with practical interest in oil burners and heating. In most parts the presentation is less compact and considerably easier to understand than is typical of engineering handbooks. Detailed descriptions of the various types of oil burners, the various types of heating systems and of related matters such as the method of calculation of heat losses from buildings. Full directions are given for both the installation and maintenance of the various types of residential burners. Though the book's coverage includes the *Handbook of Oil Burning*, published by the American Oil Burner Association in 1951, no matter has been carried over from that book.

JOHNSON, ALLEN JAQUITH editor

Fuels and combustion handbook. Editor Allen J. Johnson associate editor George H. Auth. New York McGraw Hill Book Company Inc. 1951 915 p. illus. 24 cm. \$14.00. 2358

Contents (abridged) Section 1 Solid fuels: Fuel sources, trends and reserves in the United States and abroad. Petrochemicals, oil, and other hydrocarbon fuels. Bituminous coal, subbituminous coal, lignite. Fuel, wood, wood wastes, charcoal, and agricultural wastes. Section 2, Liquid and gaseous fuels and hydrocarbons: sources of heat and power. Petroleum and petroleum derivatives. Gaseous fuels. Section 3, Combustion: Determinations and calculations of heat balances. Drifts and chimneys. Smoke, fire, pollution, and other combustion effects, including noise. Section 4, Section 5, Section 6, Preparation of coal for utilization. Section 6, Fuel handling methods. Section 7, The transfer and storage of heat. Heat transfer and insulation. Section 8, Boilers and steam generators. Methods of firing solid fuels. Firing liquid and gaseous fuels. Some specific steam-making uses of fuel. Section 9, Combustion: Boiler components and units. Index.

Note. A new handbook of interest in several fields. It provides in handy form not only wide ranges of data useful to engineers and operating personnel in powerplants but also much data on subjects that interest fuel topics. Examples of the latter include information on the fuel value of bark and wet wood, descriptions of the techniques of manufacturing bromine and sulfur from low cost oil, descriptions of electric heating, solar heat, thermal storage, coal, waste energy and uses of fuel in the manufacture of various chemical products, etc. There are numerous references to related literature but no attempt at systematic bibliography.

LEWIS BERNARD, AND GUENTHER VON ELBE

Combustion flames and explosions of gases. New York Academic Press, Inc. 1951. 795 p. 24 cm. \$13.50. 2359

Contents (abridged) Part 1, Chemistry and kinetics of the reactions between fuel gases and oxygen. Theoretical foundations. The reaction between hydrogen and oxygen. The reaction between carbon monoxide and oxygen. The reaction between hydrocarbons and oxygen. Emission spectra and ionization of flames. Part 2, and oxygen. Emission spectra and ionization of flames. Part 3, Flame propagation. Flame photography and flame recording. Combustion waves in nonreflecting explosive gases. Combustion waves in turbulent explosive gases. Mixing and combustion in fuel sprays in turbulent explosive gases. Flaming in electric fields. Part 4, Jet detonation waves in gases. Flaming, pressure, and volume of the burned gas. Temperature and radiation of the burned gas. The burned gas. Temperature and radiation of the burned gas. Part 5, Problems in practical combustion processes. Industrial heating. Internal combustion engines. Appendix: Data for thermochemical calculations. Limits of inflammability flames. Temperature. Author Index. Subject Index.

Note. A substantial contribution to the professional level written by two staff members of the Explosives and Physical Research Division of the United States Bureau of Mines. The treatment is mainly from the standpoint of physical chemistry, with much emphasis on the theory of reaction chains and chemical kinetics. However, the

physical knowledge gained from experiments is introduced and given its due in those areas in which the theoretical knowledge is still incomplete. The title of the book is the same as that of another work on the subject written by the same authors and published in 1914. However, the content is almost entirely new.

SCHMIDT, PAUL FRANK

Fuel oil manual. New York Industrial Press, 1951 160 p. 23 cm. \$3.50. 2360

Contents: Introduction. Chemistry of petroleum. Petroleum refining processes. Grades and types of fuel oils. Gravity fluid of combustion. Viscosity. Water and sediment. Carbon. Ash and ash residue. Flash and fire points. Pour point. Sulfur. Color. Distillation. Preheating of oils. Sampling storage tanks. Stability of fuel oils. Fuel oil treatments. Reclaimed fuel oils. Blending of oils. Transportation and storage. Fuel oil specifications. Complaints and causes of trouble. Index.

Note: A compilation of useful and clearly stated information for stationary engineers and other persons who are concerned with purchasing or burning fuel oil. The book is by no means exhaustive, but it includes practically all of the information that may be needed by purchasing agents, building superintendents, and engineers responsible for the handling of fuel oil in large heating installations and power plants. There are 24 tables of data on such matters as temperature volume corrections, kinematic and Saybolt viscosity conversions, heating values in relation to A.P.I. gravity and content of fuel oils, and fuel oil specifications.

SMITH, MARION L., AND KARL W. STINSON

Fuels and combustion. New York McGraw Hill Book Company Inc. 1952 340 p. illus. 24 cm. \$6.50. 2361

Contents: Fuels. Stoichiometric analysis. Thermochemical analysis. The process of combustion. Physical properties of fuels. Gas and oil burners. Coal-burning equipment. Combustion in engines. Index.

Note: A college textbook in which is combined a description of the common fuels, an exposition of the chemical and physical basis of combustion, and a description of the chief fuel-burning devices including internal combustion engines. The authors have combined familiarity with basic engineering and chemical technology and with elementary engineering mathematics as the part of their readers. Problems for the student to solve and literature references are included. The authors are members of the faculty of Ohio State University.

STEINER, KALMAN

Oil burners. Second edition. New York McGraw Hill Book Company Inc., 1950 502 p. illus. 23 cm. \$6.50. 2362

Contents: Hydrocarbons and petroleum. Fuel oil. Combustion of fuel oil. Comparative fuel data. Problems of oil burner design. Steam and hot-type burners. Domestic oil burners. Horizontal rotary burners. Industrial oil burners. Types and electric motor. Electric control devices. Electric control systems. Ignition methods. Fuel oil pumps. Oil piping, strainers, and flow regulators. Capacity of heaters and warm air furnaces. Radiators. Draft and combustion control. Oil preheating. Oil storage tanks and pumps. Service and maintenance. Control of the heating system. Appendix. Index.

Note: (4032) A comprehensive survey of practical and engineering aspects of oil fuel and oil burners. A wide range of equipment is described, but the descriptions are restricted to the presentation of fundamental principles and data. Much confidential and industrial burners are covered, but somewhat more attention is given to industrial types. Although the book contains material of interest to oil burner engineers, it appeals particularly to engineers and power plant supervisory personnel. It is also useful as a reference book for architects, builders, and others who need technical information. The present edition represents thorough revision.

HEATING VENTILATING AND AIR CONDITIONING

ADAM THOMAS NAPIER

Radiant heating: a practical treatise on American and European practices in the design and installation of systems for radiant, panel, or infra red heating, snow melting and

radiant cooling, including step-by-step procedure, with typical problems solved by the application of simplified working data, charts and tables. Second edition, revised and enlarged. New York The Industrial Press 1949 504 p. illus. 24 cm. \$6.00. 2363

Contents: (abridged) Theory of heat radiation. Artificial heating as related to body heat losses. The measurement of comfort. Test apparatus studies in radiant heated rooms. Radiant heating with ceiling, floor, and wall heating. Radiant heating with flow panels. Wall, horizontal, electrical, and metal panels. Controls for radiant heating. Areas and surface temperatures of radiant heat panels. Determining panel pipe size, spacing and heat input. Radiant cooling and air conditioning. Snow melting by embedded pipes. Step-by-step procedure in radiant heating design. Index.

Note: A comprehensive manual designed for architects and heating engineers as a source of technical information relating to the design of radiant heating systems. The present edition is 23 pages longer than the last edition published in 1947. New material is found on the design and construction of ceiling, floor, and wall panels, and there are several new cost-determining charts. There is no bibliography.

ADAM THOMAS NAPIER

Snow melting. New York The Industrial Press 1950 224 p. illus. 23 cm. \$4.50. 2364

Contents: (abridged) Feasibility and cost of snow melting by electric, steam, hot water, hot air, and hot-oil systems. Calculating the heat required for snow melting. Pipe selection and expansion in snow melting systems. Antifreeze protection and their use in snow melting systems. Automatic controls for starting systems when snow begins to fall. Air venting and flow adjusting. Snow melting systems applied to roads and driveways. Snow melting systems applied to sidewalks. Special and civil purpose applications of snow melting. Costs to install and operate snow melting systems. Design procedures and charts for pipe sizing and spacing. Index.

Note: The use of embedded hot air coils and electric cables for melting snow on driveways and sidewalks was widely discussed by the author in his book *Radiant Heating* (see above). In this volume he provides detailed information regarding design, construction, and installation and operating costs of such installations. These data, and the methods of calculating heat requirements, should be of value to anyone contemplating the installation of such system, but the book is intended primarily for engineers. A considerable variety of systems already built and operating are described and illustrated.

CARRIER, WILLIS HARRLAND AND OTHERS

Modern air-conditioning heating and ventilating by Willis H. Carrier, Realto E. Charnie and Walter A. Grant. New York Pitman Publishing Corporation, 1950. 574 p. illus. 26 cm. \$10.00. 2365

Contents: Introduction. Psychrometrics and comfort. Estimating requirements. Economics. Heat producing equipment. Heat-distributing equipment. Room heating systems. Hot-water heating systems. Automatic controls and zoning for heating. Fans, heaters, and ventilators. Air-cleaning devices and humidifiers. Design of air-duct systems. Cooling and dehumidification. Control and test systems. Refrigeration systems and equipment. Refrigeration piping. Air distribution and zoning. Automatic controls for air conditioning. Mass and vibration. Application practice. Radiant heating and air-conditioning systems. Appendix. Air-conditioning glossaries. Index.

Note: (4030) A standard treatment from the practical standpoint. It is suitable for use as a self-instruction text as well as a reference manual for practicing engineers, architects, and others in the field. The most obvious change in the present edition lies in the improved format of the tables. The page size is larger and the typographical design of text, tables, and charts is more pleasing. Revisions in content include: new sections on radiant and panel heating and expanded discussion of all heating and air-conditioning devices, and the rewriting of the chapter on psychrometrics.

DALLA VALLE JOSEPH MARIUS

Exhaust hoods. Second edition revised and enlarged. New York The Industrial Press, 1952 146 p. illus. 24 cm. \$3.50. 2366

Contents: Theory of flow of gases into an opening. Velocity characteristics of common types of unobstructed openings. Velocity characteristics of heads with special boundary conditions. Criteria for determining head coefficients. Canopy type heads. Heads for dust and solid control—total enclosures and screening. Heads for dust control—partial enclosures for grinding. Heads for dust control—micronizers. Heads for control of fumes, vapors and gases. Booth-like structures for fumes, vapors and gases. Grille-type openings under machines. Heads for woodworking machinery. Examples of head design calculations. Head entrance losses. Especially of head construction. Index.

Note: A practical work on the design and use of heads and canopies used in carry of dust, fumes etc. generated during manufacturing and other processes. It is based on laboratory research and practical design experience and includes discussions of both the aerodynamic aspects and the practical ones. Typical heads for variety of applications are illustrated. The first edition appeared in 1945. Substantial revisions, several new chapters, and number of new illustrations has been incorporated in this edition.

EMERICK, ROBERT HENDERSON

Heating design and practice. New York McGraw Hill Book Company Inc. 1951 453 p. illus. 24 cm. \$9.00 2367

Contents: Terms and definitions. How heating loads are calculated. Dampening, steam heating system. Heating boilers and steam generators. Dampening hot water heating system. Boiler firing equipment. Water heaters and how to size them. Dampening warm air heating system. Radiators, baseboards, and wall heaters. Fans and filters. Space heaters, domestic and industrial. District steam heating. The heat pump. Fuels and fuel handling. Combustion. Chimneys, stacks and flues. Heat insulation and refractories. Pipe design and performance. How to choose heating system. Radiators and dampeners. Specifications and the analysis of bids. Index.

Note: A practical, largely descriptive book for such readers as vocational school students and men who design or install heating systems. Residential heating equipment such as is currently used in the United States of America is emphasized, but there is some discussion of larger equipment. A special feature is the inclusion of information on new developments such as the heat pump and panel heating. A number of data useful in practical design is included. There are many illustrations but no bibliography.

HOLMES, RICHARD E.

Air conditioning in summer and winter. Second edition. New York McGraw Hill Book Company Inc. 1951 352 p. illus. 24 cm. \$6.00 2368

Contents: Air conditioning and the atmosphere. Psychrometry. Requirements for comfort. Air-conditioning systems. Water air conditioning—load—air-conditioning how load—best transmission heat—load heating and humidifying load. Heating systems. Humidifiers. Air filters. Application of water air-conditioning equipment. Introduction to refrigeration principles. Refrigerants and refrigerated tables. Refrigeration systems. Compressors. Conditioning equipment. Load—air conditioning. Dehumidifiers. Fuel—air-conditioning system. Solid—air conditioning. Summer air-conditioning load. Application of summer air-conditioning equipment. Temperature and humidity control. Index.

Note: (40465) A textbook and self-instruction book written for teachers, maintenance men, plumbers, and other persons who need an elementary practical treatment. The fundamentals of the subject are covered and typical apparatus is described. The first edition was published in 1933. Many changes and additions were made in preparing this edition, including considerable more technical treatment of such topics as the refrigeration cycle.

JENNINGS, BURGESS HILL, AND SAMUEL R. LEWIS

Air conditioning and refrigeration. Third edition. Scranton Pa. International Text book Company 1950 606 p. illus. 23 cm. \$7.50 2369

Contents (abridged): Fundamental definitions: heat and thermodynamics. Air and humidity calculations. Air conditioning for human comfort. Heat transfer and transmission coefficients. The heating load. Cooling load calculations. Steam heating. Hot-water heating. Warm-air heating. Heat-transfer elements. Boilers, fuels, and combustion. Air cleaning. Principles of refrigeration and re-

frigerants. Control of air-conditioning refrigerating apparatus. Industrial air conditioning. Radiant air panel heating. Index.

Note: (40464) A successful textbook for apparatus engineering students. The presentation of theory and practice are well balanced. There is special emphasis on data and procedures that are useful in the practical design of heating, air-conditioning, and refrigerating installations. The authors' style is simple and direct enough to make the book suitable for reference and home study by practical men at work in the industry. Many new data have been added in this edition, and there is new or amplified discussion of such topics as the heat pump and radiant heating.

KEMLER, EMORY NEUDECK, AND SABERT OGLESBY, JR.

Heat pump applications. New York McGraw Hill Book Company Inc., 1950. 300 p. illus. 24 cm. \$6.50. 2370

Contents: Introduction. Commercial heat pump installations. Industrial heat pump installations. Thermodynamic of refrigerants and cycles. Heat pump cycles. Heat sources. Compressors. Fans and ducts. Electric motors. Heat exchangers. Accessories. Temperature and design data. Storage and hot-water units. Patent abstracts. Index.

Note: A technical survey of the status of heat pumps employed especially in applications to commercial and residential heating, as of the year 1949. It is addressed to such readers as refrigeration and heating engineers. It is drawn partly from the literature and partly from the authors' own work in the field. Particular attention is given to describing the activities which have been stimulated in such problems as the capacity control of compressors under the conditions imposed on heat pumps in average installations. Short bibliography are included in the chapters. The chapter on patents contains abstracts of 24 United States patents.

NORRIS, JOHN W.

Warm air heating and winter air conditioning. Second edition. New York McGraw-Hill Book Company, Inc., 1950 320 p. illus. 28 cm. \$8.50 2371

Contents (abridged): Different types of heating systems described. Measuring heat losses from buildings. Dampening, space warm air heating systems. Water air conditioning of residences. Airflows, balancing and servicing water air conditioning systems. Quantity and the properties of air. Air cleaning. Thermostats control of warm air heating. Coal furnaces—their installation, operation and care. Oil furnaces—construction, operation and service. Oil furnaces and oil burners. Converting gravity furnaces to winter air conditioning. Converting coal furnaces to summer fuel. Industrial and commercial warm air installations. Solid fuels and coal conditioning. Chimneys and fans. Useful tables. Index.

Note: An excellent practical manual on this popular type of residential heating. It is addressed to heating contractors, furnace installers and other persons, such as plumbers, who are connected with the heating business. Although it is rather large and detailed volume for the average homeowner who merely wants to know how to operate a heating plant efficiently. Information on efficient operation is included. The authors' style reads easily and his discussion on appropriateness fall. There are hundreds of illustrations, and more than 50 tables of data useful in the heating field. The author is president of the Lawrence Foxworth Company and the first edition of the book was published by that firm.

SEVERNS, WILLIAM HARRISON, AND JULIAN R. FELLOWS

Heating ventilating and air-conditioning fundamentals. Second edition. New York John Wiley & Sons, Inc., 1949 686 p. illus. 24 cm. \$6.50. 2372

Contents (abridged): Essential definitions, laws, and properties of various media. Psychrometric properties of air—humidity, dew point, enthalpy, and heat losses from buildings. Heating with steam. Heating. Heating boilers and apparatuses. Heating with steam. Heating. Hot water. Panel heating. Air conveying and distribution. Mechanical design, and definition. Installation and use. Estimation of cooling loads. All-year air-conditioning methods and equipment. Automatic controls—pressure, temperature, and humidity. Appendix. Index.

Notes: (4071) Primarily this work is an engineering college textbook. Besides its textbook use, it has some value as a reference book for such persons as heating contractors, architects, and engineers. For this audience it provides concise and authoritative descriptions of modern design procedures and typical present-day heating and cooling equipment. Very substantial changes, including large amount of newly added material, appear in this second edition.

REFRIGERATION

ALTHOUSE, ANDREW DANIEL, AND CARL H. TURNQUIST

Modern electric and gas refrigeration. Fifth revised and enlarged edition. Chicago: The Goodheart Willcox Company Inc., 1950 945 p. illus. (part col d) 20 cm. \$3.00 2373

Contents: Fundamentals of refrigeration. The compression system. The absorption system. Conventional domestic compression cycle refrigerators. Domestic water and ice-making compression cycle refrigerators. Domestic absorption refrigerators. Domestic automatic cycle. Domestic refrigerator electric motors and gas supply. Domestic refrigerator cabinets. Domestic refrigerator installation. Domestic refrigerator servicing. Service tools and the refrigerator service shop. Commercial refrigeration cabinets and mechanisms. Commercial refrigeration calculations and heat loads. Commercial refrigeration installation and servicing. Refrigerators. Technical characteristics. Air conditioning. Domestic refrigerator specifications. Household water-freeze food refrigerators. Appendix to cover questions. Index.

Notes: (4072) Since 1931 when the first edition was published this book has been used in vocational schools and elsewhere as a text for men who are preparing to work at the maintenance and repairing of small refrigerators such as in or used in homes and small commercial units. The emphasis is on the residential or domestic type, but the three chapters on commercial types are sufficiently inclusive to enable a technician experienced in domestic types to perform at least elementary operations on commercial types. In the present edition the two chapters on ice-making units and frozen food refrigerators are new. However, it appears that the chapters that precede these have not been revised. For instance, the table of the properties of refrigerants on page 197 does not include items 23 even though these are listed in the properties of these newer refrigerants on page 779.

KING GUY R.

Basic refrigeration principles, practice operation a simplified presentation of the fundamentals of refrigeration giving equal treatment to all common refrigerants. Design, operation, and servicing of the apparatus and system. Chicago: Nickerson & Collins Co., 1951 526 p. illus. 24 cm. \$6.00 2374

Contents: Fundamentals. Compression system of refrigeration. Refrigerants. Expansion valves. Evaporators. Compressors. Condensers. Flow equipment. Electric controls and control valves. Lubrication. Defrosting methods. Compressor drives. Food preservation. Operating. Servicing. Refrigerated systems. Instruments and materials. Heat calculations. Humidity in refrigeration. Compression calculations. Refrigerant leak-pressure drops. Effect on refrigerants. Liquid cooling. Complete systems. Other foods—dry ice. Air conditioning and its effect. Absorption systems. The refrigeration code. Appendix. Tables. Calculating overall heat leakage factors. Answers to problems in questions. Index.

Notes: An introductory textbook designed for use in vocational schools and for home study by men interested in the trade of installing and servicing refrigerating systems. Although both commercial installations and small household refrigerators are discussed, the larger systems are emphasized. The types and properties of refrigerants, the elements of refrigerating systems, such as condensers, and special problems, such as the selection of materials from foodstuffs, are all discussed clearly. Typical calculations are worked out. Numerous helpful tables of data are included.

McCORMACK, ALEXANDER A.

Cold logic (refrigeration principles). Chicago: Nickerson & Collins Co. 1949 212 p. illus. 24 cm. \$3.50 2375

Contents: The "how" and "how much" of heat. Refrigeration as the transfer of heat. The refrigeration cycle. The story of refrigerants. Evaporators (often called coils or banks). Lubrication. Compressors. Condensers, receivers, interchangers and valves. Humidity. Introduction to air conditioning. Air conditioning calculations. Electricity's contribution to refrigeration. Applying theory to service work. Technical Index. Index to Contraints.

Notes: A self-instruction aid for men working in the refrigeration maintenance trade. The author endeavors to make the principles of refrigeration and the behavior of refrigerating machines clear to such readers. His explanations are clear without being oversimplified. Each chapter is supplemented by review questions and helpful discussions of them. The book is useful supplement to full scale introductory texts and to the service materials issued by manufacturers.

MACINTYRE, HORACE JAMES AND F W HUTCHINSON

Refrigeration engineering. Second edition. New York: John Wiley and Sons, Inc. 1950 610 p. illus. 23 cm. \$6.50. 2376

Contents: (abridged) Part I, Thermodynamics of reversed cycles. Energy relationships in industrial and domestic refrigeration cycles. Thermodynamic relationships of the simple refrigeration cycle. Special systems—the heat pump. Absorption and absorption systems—diffusion refrigeration. Refrigerants and properties of saturated and superheated vapor. Part II, Load determining. Steady-state load calculation. Transient loads. Radiation—cooling coils. Psychrometric loads—air conditioning methods. Part III, Refrigeration equipment: Compression refrigerating machines. Automatic refrigerating machines—household machines. Expansion, expansion, testing. Cold storage. Ice manufacture—dry ice. Special applications of refrigeration engineering. Index.

Notes: An engineering college textbook which is introductory in the sense that the previous edition or successor in refrigeration on the part of the reader has been assumed. However, it is designed to prepare students for practical work in refrigeration engineering and the treatment is full enough for this purpose and also to enable the book useful to graduate engineers. Most of the text is devoted to discussion that practicing engineers would be concerned with in the selection or design of refrigeration equipment. In deference to the professional use of the book, the range of data presented in graphs and tables has been greatly extended in this edition. Other new matter includes treatment of the heat pump and practical design procedure for small cooling systems.

SHARPE, NORMAN

Refrigerating principles and practices. New York: McGraw-Hill Book Company, Inc., 1949 398 p. illus. 23 cm. \$7.00 2377

Contents: The refrigeration load. Properties of refrigerants. Refrigeration cycles. Compressors and their lubrication. Heat transfer equipment. The expansion valve and the accumulator. Accessories. Flow for refrigerating systems. Motors and their controls. Refrigeration applications. Appendix. Commercial storage of fruits and vegetables. Internal energy of fluid. Transmitted heat. Pressure and volume relative for adiabatic compression. Work required for adiabatic compression. American standard safety code for mechanical refrigeration. Index.

Notes: An introductory textbook for use in undergraduate engineering courses. It is designed so as to prepare the student for practical work in refrigeration engineering. Thorough explanations of theory are integrated by means of the text and problems with illustrations of practical applications. The discussions of modern refrigeration practices include such other details as various methods of defrosting. Although much of the general material is applicable to household refrigerators, there is no specific discussion of this type of refrigerating plant, such as there is of larger plants used for cold-storage cooling and commercial ice-making.

MINING ENGINEERING

GENERAL

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Coal preparation. Edited by David R. Mitchell. Sponsored by the Seely W Mudd Memorial Fund. Second edition. New York: The Institute, 1950. 830 p. illus. 23 cm. \$8 00. 2378

Contents. Economics of coal preparation, by J. R. Moore and D. H. Davis. Characteristics of coal and its associated impurities, by H. P. Young and others. Sampling, by T. W. Gray and R. E. Zimmerman. The specifications for coal, by J. H. Kerlich and others. Screening, by T. Fisher and J. R. Johnson. Breaking and crushing, by C. E. Jenkins and H. W. Wiley. Preparation of the face, by I. D. Coomer and M. H. Forest. Hand picking, by D. H. Davis. Principles of gravity concentration, by R. D. Thomas. Coal washers of the classifier type, by J. Griffin. Lamellar washers, by C. P. Proctor and J. T. Coker. Flies, by R. M. Bird and D. R. Mitchell. Concentrating tables, by R. W. Goodard. Dense-media processes, by R. M. Bird and D. R. Mitchell. Pneumatic coal cleaning, by R. C. Coe and D. R. Mitchell. Flotation, by R. E. Zimmerman. Miscellaneous processes, by D. R. Mitchell and R. E. Hovell. Slurries, sludges, slimes and water treatment, by F. P. Lunsell and others. Dewatering and thermal drying, by G. E. Lyons. Dewatering and dust collection, by T. L. Garwood and F. C. Meek. Treatment of coal surfaces, by R. A. Sherman and J. M. Fisher. Plant control and efficiency, by R. E. Zimmerman. Loading, by D. R. Mitchell and T. Fisher. Index.

Note. (4113a) A comprehensive treatise on the processing of coal from the time it is separated from the active seam to its loading for delivery to the consumer. American methods are described almost exclusively. The book is useful to advanced students of mining engineering who are preparing for the coal industry and to non-activity engineers in this industry. Many illustrations of equipment and many tables of data supplement the discussions. In the present edition two entirely new papers have been substituted for two papers that appeared in the original edition published in 1943. Most of the other papers have been revised somewhat, and about half of them have been revised extensively. Some, but not all, of the illustrations have been brought down to date.

BATHMAN, ALAN MARRA

The formation of mineral deposits. New York: John Wiley & Sons Inc. 1951. 371 p. illus. 24 cm. \$5 50. 2379

Contents. Introduction. Materials of mineral deposits. Brief history of evolution of ideas on the origin of mineral deposits. Realities of mineral deposits to human activity. The primary mineralization reactions. The processes of formation of mineral deposits. Magmatic processes. Contact metamorphic processes. Hydrothermal processes. Sedimentary processes and cycles. Weathering processes. Metamorphic processes. Ground-water processes. Controls of mineral localization. Exploration and exploitation of mineral deposits. Mineral resources. Additional general references. Appendix: Geologist's time table. Glossary. Index.

Note. In this new book the author has covered much of the same ground, and used some of the same material as in his *Economics of mineral deposits*, described above. However here he has written for adult general readers rather than advanced college students and has written in a clear, nontechnical style. There is also more discussion of the economic importance of minerals.

CRAIN HARRY M. editor

Economics of the mineral industry. Golden Col. Colorado School of Mines, 1950. 47 p. illus. 23 cm. (Quarterly of the Colorado

School of Mines, Vol. 45 no. 1A) Paper \$0.50 2380

Contents. Mineral resources appraisal by the U. S. Geological Survey by R. G. Lusk. Oil and natural gas, by M. W. Ball. Gold, our most strategic mineral, by D. H. McLaughlin.

— Petroleum refining. Golden Col. Colorado School of Mines, 1950. 162 p. illus. 23 cm. (Quarterly of the Colorado School of Mines, Vol. 45 no. 2A) Paper \$2.00. 2381

Contents. The cracking of petroleum, by E. W. Lane. The commercial dehydrogenation of normal butane, by R. L. Hays and E. Delaval. Siloxane production by thermal cracking of propene-silane mixtures, by C. E. Burt and L. J. Wiser. Petroleum refining instrumentation, by H. M. Schmidt. Research in the petroleum industry—today and tomorrow, by C. E. Vilek. Low temperature distillation assays of representative western U. S. and Alaska crudes, by V. E. Perry and others.

— Metallurgy. Golden Col. Colorado School of Mines, 1950. 60 p. illus. 23 cm. (Quarterly of the Colorado School of Mines, Vol. 45 no. 3A) Paper \$0.50 2382

Contents. The trend of iron-ore concentration in the Lake Superior district, by R. C. Baker. Utilization of iron, by C. E. Lusk. Current research in physical metallurgy, by R. R. Parker. Metallurgical materials in the coal-making industry, by C. E. Thomas.

— Geophysics. Golden Col. Colorado School of Mines, 1950. 103 p. illus. 23 cm. (Quarterly of the Colorado School of Mines, Vol. 45 no. 4A) Paper \$1 00. 2383

Contents. The relationship of research and field operations in seismic exploration, by C. H. Green. Geological investigations in the interpretation of geophysical data, by R. C. Collin. Current trends and progress in seismic geophysics, by H. Landberg. Recent developments in electrical logging and auxiliary methods, by C. E. Doll and M. Martin. Recent developments in seismic research, by D. H. Everett. Recent developments in gravity prospecting, by S. Hansen.

— Applied geology a symposium. Compiled and edited by F. M. Van Tuyl and T. H. Kuhn. Golden, Col. Colorado School of Mines, 1950. 343 p. illus. 23 cm. (Quarterly of the Colorado School of Mines, Vol. 45, no. 1B) Paper \$3 00 2384

Contents. The petroleum geology of Colorado, by C. E. Dobson. Modern methods in petroleum exploration, by G. F. Krasnow. Applications of geology to the investigation of our water resources, by A. W. Sayce. Applications of geology to land conservation, by D. H. Griswold. Geology and irrigation engineering, by E. D. Denney. Applications of geology to highway engineering, by S. E. Horner and J. D. McNeal. A tribute to the early workers in Colorado geology, by S. E. Butler. Problems in the relation of ore deposits to hydrothermal alteration, by G. M. Schuchert. The fault-valley hot spring and "epithermal" mineral deposit environment, by H. Schuchert. The geochemistry of sulfide and related types of rock alteration, by T. S. Lovering. Interpretation of well-rock studies at Butte, Montana, by R. H. Snee and C. Meyer. Discussion of alteration and its applications to ore search, metamorphic alteration along veins, by R. A. Fisher. Problems of well-rock alteration in shallow volcanic environments, by W. R. Burkard. Discussion of alteration and its applications to ore search, by F. F. Kerr.

— Coal and metal mining. Golden, Col. Colorado School of Mines 1950. 381 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 2B) Paper \$3.00. 2385

Contents: Opportunity in the field of coal mining engineering, by H. C. Woods. Mechanization of Western coal mines, by J. Casano. Economics and technique of strip coal mining, by R. P. Kinsley. Trends of continuous coal mining underground, by W. L. Worthy. Upgrading Missouri Basin coals by flash drying, by V. F. Parry and R. O. Wagner. Coal and its future, by L. M. Charles. Synthetic oil from coal, by J. D. Deherty. Metal mining: review of progress in the production of the mines of the Butte, Montana, district, by A. R. Richardson. Safety in the mining industry, by D. Harrison. Transportation of ore underground, by C. L. McWhorter. Mine subsidence, by C. L. Dismart. Seventy five years of rock-drill progress, by M. L. McCormack. Explosives in the mining industry, by J. H. Zent. Short-interval-cyclic blasting in underground operations, by C. L. Becker. Mining practices at the Cheam and Inyanine mines, by W. K. McElhinna.

— Petroleum engineering. Golden, Col. Colorado School of Mines, 1950. 51 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 3B) Paper \$0.50. 2386

Contents: On-conduits faults, by W. R. Brown. The utilization of oil properties for secondary recovery, by R. C. Karpovich. Secondary recovery of petroleum, by P. D. Threy. Petroleum conservation and conservation laws, by H. V. Carter.

— Industrial minerals. Golden, Col. Colorado School of Mines, 1950. 44 p. illus. 23 cm. (Quarterly of the Colorado School of Mines. Vol. 45 no. 4B) Paper \$0.50. 2387

Contents: Industrial minerals of Colorado, by G. O. Arnold. The consumption of bauxite in wet ball milling, by C. H. Knight and Donald Dymark. Ground water in Keweenaw, by T. W. Robinson. Surface Lake development, by R. W. Dyer.

Note: Together the volumes listed above constitute the seventy-fifth anniversary volume of the Quarterly and they have collective title "Mineral resources in world affairs." The papers contained in them are original, and were written by outstanding geologists and other men who are associated with geology, mining, and petroleum in the United States of America. Generally speaking the articles do not contain reports of original research but are, instead, summaries of modern developments or descriptions of the current state of affairs.

HARRINGTON DANIEL AND OTHERS

Safety in the mining industry by D. Harrington, J. H. East, Jr., and R. G. Warner. Washington D. C. Government Printing Office, 1950. 102 p. illus. 26 cm. (United States Bureau of Mines. Bulletin 481) Paper \$0.40. 2388

Contents: Introduction. Coal mining. Bituminous coal and lignite. Anthracite. Metal and nonmetallic-mineral sources. Quarrying. Petroleum. Industry. Health of miners. Trend of fatal accidents in the mining industry. Mineral and conclusions.

Note: The mining industry of the United States has been severely criticized because of its high rate of accident occurrence. Both in comparison with other industries in the United States and in comparison with the mining industries of other nations. This bulletin gives actual figures in various categories, some of these going back to 1904, to show trends and improvements. Information is provided concerning mine accidents and their causes. The effects of new safety methods, mechanization, and other advances in mining are reflected in the statistics, which are shown on both bar-graphs and pie-charts of accurate basis where possible.

JOHNSON, JESSE HARLAN

An introduction to the study of organic limestones. Revised edition. Golden, Colorado School of Mines, 1951. 185 p. illus. 23 cm. (Quarterly of the Colorado

School of Mines. Vol. 46 no. 2) Paper, \$2.00. 2389

Contents: Fossils. Forams. Sponges. Corals. Trilobites. Echinoderms. Bryozoa. Worms and other invertebrates. Brachiopods. Mollusks. Arthropods. Calcareous algae.

Note: An illustrated paper designed to serve as an introduction to the study of organic limestones. For each of the ten groups discussed there are introductory and list of bibliographical references, together with notes as to chemical composition, structure, chief deposits, and descriptions of the major deposits. A feature of the publication is the set of 164 photographic plates showing the various types of calcareous organic debris to which is illustrating.

LEROY LESLIE WALTER, editor

Subsurface geologic methods (a symposium) Second edition Golden Colorado School of Mines, Department of Publications, 1950. 1156 p. illus. 24 cm. \$7.00. 2390

Contents (abridged): Introduction. Stratigraphic, structural and correlation considerations. Comments on laboratory tests. Subsurface laboratory methods. Subsurface logging methods. Miscellaneous subsurface methods. Secondary recovery of petroleum. Valuation and subsurface geology. Dunes and reports of the subsurface geologist. Graphic representations. Subsurface maps and illustrations. Subsurface methods as applied in mining geology. Subsurface methods as applied in geophysics. Geologic techniques in civil engineering. Sources of well information. Author index. Subject index.

Note: A collection of more than 10 papers, written by 30 authors, on such geological techniques as micromorphology of rock, X-ray analysis, sampling of well cuttings, electric logging, radioactivity in well logging and on related non-geological subjects such as oil well servicing, design of rock beds, oil well cementing, and oil field valuation. Some of the material has been published previously but considerable part was prepared especially for this volume. The first edition was published in 1949. Several papers have been added in this edition and the index is new feature that will be much appreciated by libraries.

STALEY WILLIAM WESLEY

Mine plant design Second edition. New York McGraw Hill Book Company Inc. 1949. 540 p. illus. 24 cm. \$8.00. 2391

Contents: Graphical solution of simple beams and roof trusses. Review of simple design principles. Road design, culverts, and footings. Structures. Ore bins, skips and cages. Safety catches. Mine hoists. Handling of water for mining purposes. Compressed air. Mine haulage. Power plant. Mine ventilation. Index.

Note (4087): A standard work which is used both as textbook in engineering colleges and as guide for mine operators and engineers, particularly those located in isolated areas who must design structures and equipment with little aid from other sources. Only equipment used above and below ground in mining and handling ore is covered. Ore bins, skips and conveyors machinery are not discussed. In this edition chapters have been added on ore bins, skips, cages, and other topics, and the chapter on hoistways has been revised to include the design of vertical structures. The chapters are supplemented by fully extensive lists of references, and some of them have been revised.

STOKILLE EDWARD

Mineral forecast 2000 A.D. State College, Penn. The Pennsylvania State College, 1952. 216 p. illus. 24 cm. \$3.00. 2392

Contents (abridged): Part one, Minerals and geology. Part two, Mineral forecast 2000 A.D. 1. Minerals. 2. Fuels. 3. Metals. 4. Non-metallic minerals. 5. Geology. 6. Materials. 7. Mineral economics. 8. Mineral extraction. 9. Mineral preparation. 10. Power supplies. 11. Atomic energy. 12. Mineral extraction. 13. Mineral policies. 14. Conclusions.

Note: A complete account of the present state and the possible future of our mineral resources. The first part, originally published as Circular 37 by Pennsylvania State College, outlines the dependence of the United States on other countries for many of its most strategic minerals and presents the need for "domestic" mineral policies. The second part, published as Circular 38 is intended to show how education and research can help solve the shortage by developing new methods for utilization or even of synthesis of the important minerals. Each mineral is treated separately and, while Pennsylvania's part is emphasized from time to time, the national picture is clearly delineated.

Also A report of the results of reconnaissance geologic investigations of the mineral deposits of Thailand made by three geologists of the U. S. Geological Survey and four geologists of the Royal Thai Department of Mines. The work was done under the auspices of the Technical Cooperation Administration of the Interdepartmental Committee on Scientific and Cultural Cooperation of the United States Department of State. Some of the basic data in the report were obtained in field work from October 1949 through March, 1950; other parts of the report are based upon earlier work by Thai geologists and engineers. Twenty diagrams and maps are folded in the pocket in the back of the bulletin.

KELLEY VINCENT COOPER

Geology and economics of New Mexico iron-ore deposits. Prepared in cooperation with the Geological Survey U. S. Department of the Interior Albuquerque. The University of New Mexico Press, 1949 246 p. illus. (part col d) 23 cm. (University of New Mexico publications in geology No two) Paper \$3 00 2397

Contents (abridged) Part I, General aspects. Part II, Iron-ore deposits. Bibliography. Index.

Also A comprehensive study of iron-ore deposits and mining in states which is one of the chief suppliers of ore to the iron and steel industry of the southeastern United States. Is the first part such aspects as stratigraphic, metamorphic, classification, reserves, uses, mining, marketing, and economic features are discussed. The second part a detailed description by region of known deposits. The whole study represents a detailed picture of iron-ore mining in region here both the technological and economic conditions are comparatively unfavorable.

LADOO, RAYMOND BARDEEN AND W. M. MYERS

Nonmetallic minerals. Second edition. New York McGraw-Hill Book Company Inc., 1951 605 p. 24 cm. \$11 00 2398

Also A textual reference book of information about such materials as asbestos, apophyllite, borax, clay, feldspar, fuller's earth, gypsum, kyanite, mica, phosphates, rock, sand and gravel, slates, talc, various minerals, and vermiculite. Although almost all minerals and groups of minerals are considered. The information given on typical mineral as group includes chemical composition, general description, physical properties, known deposits, mining methods, statistics of production for recent years, uses, prices, and bibliography. The first edition of the book appeared in 1935. This edition contains largely new material.

SELVIG, WALTER ALFRED AND OTHERS

American lignites: geological occurrence, petrographic composition, and extractable waxes, by W. A. Selvig, W. H. Ode, B. C. Parks, and H. J. O'Donnell. Washington D. C. Government Printing Office 1950 63 p. illus. 26 cm. (United States. Bureau of Mines. Bulletin 482) Paper \$0.35 2399

Contents (abridged) Occurrence and geology of lignite deposits in the United States. General notes and use of lignite in wax. Commercial production of waxes from lignite in Germany and Czechoslovakia. Commercial production of domestic waxes from lignite. Investigation of waxes extractable from British lignite. Investigations of waxes extractable from peat. Waxes extractable from American lignites. Published reports on laboratory investigations of American and Canadian lignites. Laboratory extraction method. Extraction yields. Petrography of lignite coal. Petrographic characteristics of natural and xylene lignite coal. Petrographic composition of lignite from Arkansas, Texas, North Dakota, and California. Investigation of petrographic components contributive to extraction yields. Appendix. Descriptions of coal samples.

Also Because of the shortage of waxes war in the close of World War and the fact that the industry in the United States has had to rely on imported wax in the past, an investigation was started in 1943 to determine probable yields of wax from domestic lignites. Results of the investigation and the properties of extractable

waxes are described in this bulletin. Also discussed are the occurrence and geology of lignite deposits of the United States from which samples were obtained for wax extraction and the petrographic composition of lignites, particularly in respect to those components that contribute to wax yields.

SYMPOSIUM ON MINERAL RESOURCES OF THE SOUTHEASTERN UNITED STATES

1949 proceedings. Sponsored by Department of Geology and Geography the University of Tennessee. Edited by F. G. Snyder Knoxville, Tennessee The University of Tennessee Press, 1950 236 p. illus. 24 cm. \$4.00 2400

Contents Geologic investigations and exploration in southeastern United States, by R. A. Lawrence. Technical framework of the southeastern states, by Philip B. King. Problems of the geologic and mineral resources of the southeastern states, by C. H. Baker, Jr. Felsite and mica deposits of southeastern United States, by J. M. Parker, Jr. Geology of the uranium-bearing deposits in Virginia, by A. A. Pappas. Occurrence of tungsten minerals in the southeastern states, by G. H. Kephauk. Recent geological investigations in the Dickinson mining district, Tennessee, by W. W. Rimmer. Zinc deposits of the southeastern states, by C. R. L. Ode and L. W. Root. Barite deposits southeast of the Appalachian plateau, by T. L. Keller. Kyanite and sillimanite in the southeastern states, by J. S. Farnham. Talc, magnesite, and pyrophyllite in the southeastern United States, by J. L. Struck. Vermiculite of the southeastern states, by C. E. Hunter. Brown phosphatic rock in Tennessee, by H. B. Merrill. Notes on the lead-antimony-phosphorus deposits of Florida, by J. S. Catcott. Manganese deposits of the southeastern states, by H. D. Miller. Bauxite deposits of the southeastern United States, by J. Bridge. Economic minerals in the beach sands of the southeastern United States, by H. B. Conner. Ground-water geology in the southeastern states, by V. T. Ruppel. Ground water in relation to mining in the southeastern states, by G. D. Duffek. Index.

Also The papers in this volume are devoted—as the title indicates—mainly to mineral or specific mineral occurrence in geologically important deposits in the Southeastern states of the United States of America. The authors are professional geologists and the papers are addressed to geologists and to members of other professions interested in mineral resources of this region. Although some of the authors give more attention to the historical development of the field covered by their papers, the typical paper is a concise summary of the contemporary status with emphasis on the geological and petrographic aspects rather than the economic. Substantial lists of references are included.

PETROLEUM

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS

Possible future petroleum provinces of North America. A symposium conducted by the American Association of Petroleum Geologists. Papers presented at the thirty-fifth annual meeting of the Association at Chicago Illinois, April 24-27 1950 Edited by Max W. Ball and others. Tulsa The Association 1951 358 p. illus. 24 cm. \$4 00 2401

Contents (abridged) Alaska, by G. Gray and others. Western Canada, by Alberta Society of Petroleum Geologists. Pacific Coast states and Nevada, by Pacific Section of American Association of Petroleum Geologists. Rocky Mountain region, by Rocky Mountain Association of Geologists and others. Mid-continent region, by Tulsa Geological Society. West Texas and eastern New Mexico, by West Texas Geological Society. Fort Worth basin and Mustang Arch, north-central Texas, by Fort Worth Geological Society. Denver-Northern Texas, by South Texas Geological Society. Mexico, by Manuel Alvarez, Jr. Western Gulf coast, by Houston Geological Society. Continental shelf of Gulf of Mexico, by Paul Weaver. Southeastern United States, by Committee of Geologists from the Southeastern United States. Northeastern United States, by Jackson L. Anderson. Appalachian region, by Appalachian Geological Society. Eastern Canada, by J. P. Colby and others. Eastern Interior basin, by Illinois Geological Society and others.

DIX, C. HEWITT

Seismic prospecting for oil. New York Harper & Brothers 1952 414 p. 21 cm. (Harper's geoscience series, Carey Cronels editor) \$7.50 2405

Contents: Introduction and general orientation. Summary of exploration methods commonly used. Summary of seismic methods commonly used. Routine seismic crew operations—cost reduction. Efficient exploration programs. Routine interpretation—Basic technical work. Datum corrections. Velocity measurements. Depth and dip computations. Seismicly determined. Presentation of results. Interpretation: Picking reflections. Reflection prospecting: Line selection work. The physical processes involved: Basic physics assumed. Prospecting of simple pools. Recording. Bibliography. Index.

Note: Scientific knowledge and practical know-how have been expertly synthesized in this work. Although other methods are described, most of the space is devoted to seismic prospecting by the reflection method. Field techniques are described, but the main emphasis is on the interpretation of the records of the field work. No previous acquaintance with seismic prospecting has been assumed. However there is much in the book that is of interest to persons of considerable experience with seismic prospecting. An unusual feature is the inclusion of mathematical formulas and computations on the illustrations themselves. This makes an essential part of the work available to readers who do not know English. A comprehensive bibliography is included.

DOBBIN MILTON BURNETT

Introduction to geophysical prospecting. New York McGraw-Hill Book Company Inc., 1952 435 p. illus. 24 cm. \$7.00 2406

Contents: General introduction. Gravity prospecting—fundamental physical principles. The earth's gravity and the concept of isostasy. Instruments for measurement of gravity. Gravity field measurements and reductions. The interpretation of gravity data. Magnetic prospecting—fundamental principles and instruments. The measurement of the earth's magnetic field measurements and their interpretation. Prospecting with the air-borne magnetometer. Basic physical principles of magnetic wave propagation. Earthquakes and the earth's internal structure. Seismic instruments and the application of seismic waves. The seismic reflection method. The seismic refraction method. Electrical prospecting methods. Prospecting for radioactive elements. Interpretation of geophysical methods as illustrated by case histories. Geophysical well-logging methods. Radio position locators for geophysical surveys. Current research in geophysical exploration and the relation of geophysics to geology. Index.

Note: Current techniques in geophysical prospecting for petroleum and minerals are described in this book for advanced students in geology and mining engineering and for graduate engineers in these fields who find themselves in need of an introductory survey. Even though the work is an introduction, wide range of material is included on scientific principles, instruments, methods of making observations and of interpreting them for the various established geophysical techniques. In addition, literature references to more extended treatments of particular phases are furnished. The author is Senior Research Technologist on the staff of the Magnolia Petroleum Company.

FANNING LEONARD M. editor

Our oil resources. Second edition. New York McGraw-Hill Book Company Inc., 1950 420 p. illus. 24 cm. \$6.00 2407

Contents: The role of private enterprise in the development of oil resources, by W. S. Robinson. A national oil policy for the United States, formulated by the National Petroleum Council. American oil companies in foreign petroleum operations, by E. Robinson. Conservation of our oil and gas resources, by E. M. Dow Technology for the great hydrocarbon: Exploration technology, by D. D. Donnell—Production technology, by J. M. Lawley. Oil and natural gas resources: The world's petroleum resources, by W. E. Pratt—Reserves of United States oil resources and natural gas liquids reserves, by the American Petroleum Institute—Reserves of United States natural gas reserves, by the American Gas Association—More oil for America, by L. F. McCaffrey—Long term availability of petroleum report, by the American Petroleum Institute—How the oil-supply problem was solved, by R. E. Wilson. Our supplemental petroleum reserves, by R. Arnes. The Bureau of Mines demonstration plants in the synthetic-fuels plants, by L. L. E. Foye and F. O. Conquest. A case history of oil-shorting scares, by L. M. Fanning. Appendix. Index.

Note: A reference book of economic, production, and conservation data. The majority of articles were written by executives of corporations and other organizations of the oil industry and the industry side is preponderant. The last chapter particularly demonstrates that there have been many oil-shorting scares but no oil shortages. The first edition was published in 1945. In this edition there is much new material, and statistical data have been brought down to the end of 1948.

HAGER, DORSEY

Practical oil geology. Sixth edition. New York McGraw-Hill Book Company Inc. 1951 589 p. illus. 19 cm. \$8.00. 2408

Contents: Petroleum—its origin and accumulation. Chemical composition of petroleum—physical characteristics—commercial values. Stratigraphy. Rocks and their uses. Structural geology—the broad concepts of folding. Dissection of gas and oil traps. Describing for new gas and oil fields. Geological field methods and instruments in use. Geophysics. Applications of geology to drilling for gas and oil. Geological factors in oil-well drilling. Well logging. Geological factors in oil production. Methods of estimating oil recovery. Water and its relationship to oil. Natural gas—natural products. Oil shales. What the geologist has done for the oil business. Appendix. List of books on oil and general geology. Index.

Note: (4130) The word "practical" in the title of this book has not been idly used. The book is intended for men who are making their living as oil geologists and for students who are preparing to do so. It covers the whole scope of petroleum geologist's work including such minor points as how to behave when called as an expert witness in law suits. In the sixth edition there are two new chapters, one on well logging and the other on estimating the methods of oil recovery. The book has been recognized and the type reset. There are five new tables in the appendix, and the bibliography has been expanded to include the recent literature.

INTERSTATE OIL COMPACT COMMISSION
ENGINEERING COMMITTEE

Oil and gas production an introductory guide to production techniques and conservation methods. Norman, Okla. University of Oklahoma Press, 1951 128 p. illus. 24 cm. \$2.75 2409

Contents: Petroleum geology. Reservoir fluids. Reservoir mechanism. Field examples. Measurement in the production of oil and gas. Regulatory practices affecting oil recovery. Appendix. Major types of oil fields. Index.

Note: The Interstate Oil Compact Commission, comprising twenty oil and gas producing states, was organized to promote the conservation of petroleum resources. In this book the Commission has provided for laymen and non-technical employees of the oil industry a simple and concise account of the basic principles and methods of oil and gas production. Emphasis is placed on techniques which result in maximum recovery and minimum waste. The descriptive material is further clarified with numerous charts and illustrations.

LALICKER CECIL GORDON

Principles of petroleum geology. New York Appleton-Century-Crofts, Inc. 1949 377 p. illus. 24 cm. (The Century earth science series Kirtley F. Mather editor) \$5.00 2410

Contents: Introduction. Geographic and stratigraphic distribution of petroleum. Chemical and physical properties of petroleum and related substances. The origin of petroleum. Migration and accumulation of petroleum. Reservoir rocks. Classification of oil and gas pools. Origin of structures. Anticlines, domes, and synclines. Reservoirs caused by folding. Salt dome oil fields. Barred hills. Stratigraphic and permeability type fields. Petroleum discovery methods. Geological considerations in recovery methods. Valuation of oil and gas properties. Index.

Note: A useful, well-organized survey of the current knowledge of petroleum geology. Outstanding features are the tabulations by region and geological strata of known petroleum deposits, the review of the prevailing theories of the origin and accumulation of petroleum, the detailed descriptions of the features of considerable number of developed fields, and the thorough outline of discovery methods. Postscript references to related literature are included. The author has assumed that the reader will understand geological concepts and terminology; however, the presentation is not highly technical.

LANDES, KENNETH KNIGHT

Petroleum geology New York John Wiley & Sons Inc., 1931 660 p. illus 24 cm. \$10.00
2411

Contents: The petroleum geology. Part I. The petroleum geology. Part II. Exploration. Part III. Geology. Part IV. Physical and chemical properties of oil and gas. Origin and evolution of oil and gas. Migration of oil and gas. Accumulation; reservoir rocks—traps. Part V. Present and future oil supplies. Distribution of oil and gas fields—United States. Distribution of oil and gas fields—exclusive of the United States. Future oil supplies. Appendix. Index.

Note: This book is both a college textbook for upper-level students preparing to specialize in petroleum geology and a reference book. The third part of the book—which is the part having the most reference value—accounts for about one-half of the space. In this part the main oil fields of the world are discussed from the geological viewpoint. The discussions are fairly detailed and are accompanied by maps and in many cases diagrams of the geological formations. Throughout the book the related literature is cited in footnotes, and at the end there is a useful annotated list of important books and documents.

LOZO, FRANK EDGAR, editor

The Woodbine and adjacent strata of the Waco area of central Texas. A symposium edited by Frank E. Lozo with the assistance of Bob F. Perkins. Dallas Southern Methodist University Press 1951 183 p. illus. 27 cm. (Fondren science series. No 4) \$7.50.
2412

Contents: The Great Fracture of Texas, by F. Byron. History of discovery and development of Woodbine oil fields in east Texas, by C. L. Alexander. Comparative status of the Woodbine in oil production, by G. J. Lectoria. The south Texas field, McAdams county, Texas, by J. C. Price. Geology of Balcones Reservoir area, Leon river field, county Texas, by L. Collins. Geology of Whittaker Reservoir area, Brazos river basin—Hill counties, Texas, by A. M. Hill. Stratigraphic notes on the Miocene (Chambers Creek) shale, by F. E. Lozo. Woodbine sandstone dikes of northern McAdams county Texas, by J. M. Moore. Stratigraphy of the Woodbine and Eagle Ford, Waco area, Texas, by W. S. Adkins and F. E. Lozo. References. Plates. Index.

Note: This symposium of the oil fields in this volume contains a detailed study of the geology of one of the most important petroleum producing areas in the world. The volume was prepared by members of the East Texas Geological Society. The illustrations contain sections not only on geological maps of the area but also several plates of photographs of sand specimens.

MUSKAT MORRIS

Physical principles of oil production. New York McGraw Hill Book Company, Inc., 1949 922 p. illus. 24 cm. (International series in pure and applied physics G. P. Harwell, consulting editor) \$15.00
2413

Contents: Introduction. The physical properties and behavior of petroleum fluids. The properties of oil bearing formations pertaining to oil production. Some dynamic conditions for homogeneous fluid flow systems. Individual well problems in uniform strata with homogeneous fluid flow. Strata of nonuniform or anisotropic permeability with homogeneous fluid flow. Dynamic conditions for heterogeneous fluid flow phenomena. Steady-state heterogeneous fluid flow systems. The productivity index. General reservoir mechanics. Gas-drive systems. Composite two-phase reservoirs. Secondary recovery. Condensate reservoirs. Well spacing, recovery factors, and recoverable reserves. Appendix. Index.

Note: A notable presentation of the current knowledge bearing on the behavior of oil, water and gas in natural underground reservoirs. The author has endeavored to keep as closely as possible to hydrodynamics and other principles that are scientifically sound. The theoretical material is mainly buttressed by facts gathered from experience in oil fields, especially oil fields in the United States of America. The book is addressed to petroleum engineers, conservation officials, and other technically trained personnel associated with oil field exploration and production. Related literature is cited in footnotes.

NETTLETON, LEWIS LOMAX, editor

Geophysical case histories. Volume 1—1948. A collection of 60 papers by 61 authors, assembled from papers published by the Society of Exploration Geophysicists, The American Association of Petroleum Geologists, and The American Institute of Mining and Metallurgical Engineers together with much new material. Tulsa Okla. Society of Exploration Geophysicists 1949 671 p. illus. 25 cm. \$7.00.
2414

Contents (abridged): Section 1, General and historical papers. History of geophysical case histories, by H. C. Curtis. The history and development of seismic prospecting, by R. E. Woodbury. A brief history of the geophysical method of prospecting for oil, by R. A. Edwards. Section 2, Salt dome case histories. Section 3, Miscellaneous case histories. Section 4, Rocky Mountain case histories. Section 5, California case histories. Section 6, Florida case histories. Section 7, Geophysical history of the Tropic of Cancer, by W. S. Allen. Geophysical history of the Northward salt dome and oil field near Newberry, northwest Germany, by R. S. Schwabach. Geophysical exploration and discovery of the Redoubt (Alaska) oil field in Hungary, by D. C. Davis and R. V. Voth. Geophysical operations in Kuwait, by P. H. Bess and A. D. McKee. Index. Map and figure index.

Note: A series of papers dealing with the preliminary geophysical reconnaissance of various oil fields, principally in the central and western United States. Detailed case histories are given of many actual fields. About one-third of the papers were written for the volume and the rest were reprinted from various sources. All papers except the first are illustrated, some of them with folding maps or diagrams. The purpose of the case history program of the Society of Exploration Geophysicists is to provide material by which geophysical surveys can be judged in the light of later development of the surveyed area as an aid in the interpretation and evaluation of other geophysical work. The papers are concerned primarily with geophysics rather than geology but geological factors are given varying attention in the articles, ranging from none to considerable, depending upon the individual section. The authors promised that the book's readers would have an understanding of the general principles and instrumentation by which seismic, gravity and magnetic surveys are carried out.

PIERSON SYLVAIN JOSEPH

Elements of oil reservoir engineering. New York McGraw Hill Book Company, Inc., 1950 441 p. illus. 23 cm. \$7.50.
2415

Contents: The reservoir rocks and structures (sedimentary study). The reservoir rocks and structures (metamorphic study). The reservoir rocks and structures (igneous study). The fundamental principles of reservoir engineering. Fundamental production processes. Analysis of field data. Appendix: Abbreviations and symbols. Name index. Subject index.

Note: The management of underground petroleum resources is so vital to the economic life of petroleum and gas in complex situations which require detailed knowledge of geology, petrology, physics, and mechanical topics. In this book, designed primarily for petroleum engineering students, the subject is treated systematically with the emphasis on the fundamental principles and on general analytical and forecasting methods. Considerable attention is given to the experimental methods which have advanced the knowledge of oil reservoir behavior.

PRATT WALLACE EVERETT AND DOROTHY GOOD editors

World geography of petroleum. Published for the American Geographical Society by Princeton University Press, 1950. 464 p. illus. 26 cm. \$7.50
2416

Contents (abridged): Part I, Petroleum in the ground, by E. H. Hager. Part II, The functional organization of the petroleum industry, by W. B. Herry. Part III, The world's petroleum resources. The Western Hemisphere. The Caribbean area, by W. E. Pratt. Venezuela, by G. Ziegler. Trinidad, by A. J. J. Pratt. Mexico, by G. M. Knight. Colombia, by G. Serran. North America, by G. M. Knight. The Eastern Hemisphere. The Middle East, by G. M. Knight. Saudi Arabia and Bahrain, by M. Shukri and

M. P. Yachol. The Union of Soviet Socialist Republics, by E. Stalder. Karpas west of the U. S. & S. R., by J. C. Reed. Indonesia, British Borneo, and Burma, by J. Swaine. The world of water: Petroleum in the polar areas, by W. K. Pratt. Petroleum on the continental shelves, by W. K. Pratt. Part IV Aspects of utilization: The availability of petroleum—today and tomorrow, by E. F. Mather. Geographical aspects of petroleum use in World War II, by the Office of the Army-Navy Petroleum Board of the Joint Chiefs of Staff. World patterns of civilian utilization, by J. W. Fry. A statistical survey by A. Van Buren. Appendix. Bibliography. Abbreviations. Note on glossaries. Conversion factors. Index.

Note: Is this work geologically petroleum geology economics, and utilization have been combined in successful synthesis. The result is an important background book that reads as easily as any standard work on economic geography and is suitable for both geographers and general readers. Original maps and such other reference material is included.

RISTER, CARL COKE

Oil Titan of the Southwest. Norman University of Oklahoma Press 1949 467 p. illus. 24 cm. \$5.00. 2417

Contents: Foreword, by E. DeGolyer. Texas' oil-bearing area. The Red River's hidden wealth. From Pecos to Nederland, Kansas. Cardona, the cattle rider. Queen of the Mocho. Exploiting other oil domes. Red Fork, Cleveland, and Ghent pool. Louisiana in the seven. Exploiting the Red River fields. Oklahoma stands the show. The Ranger oil boom. Dickinson and Brockington. Along the Meigs fault zone. Comstock in oil. An Ochoa Meigs. Cato. Arkansas' El Dorado. Texas barges ahead. Greater Seminole. Oklahoma City's boomtown field. Producing oil and gas. Petroleum basin discoveries. Fathoms East Texas. Finding new horizons. Oil at war. Oil conservation and control. An era of specialization. The impacts of petroleum. Appendix. Glossary. Bibliography. Index.

Note: A well-documented history of the petroleum industry in the southeastern United States of America from its beginnings to the present. In addition to historical descriptions the author gives much information about the financial and economic aspects. The names of individuals and companies connected with the development are frequently. Many interesting illustrations are included.

STANDING MARSHALL BURTON

Volumetric and phase behavior of oil field hydrocarbon systems. New York Reinhold Publishing Corporation, 1952 123 p. illus. 29 cm. \$10.00. 2418

Contents: Introductory phase behavior and field flow concepts. Sampling methods and apparatus. Behavior of gases. Behavior of liquids. Vapor-liquid equilibria. One-component systems. Dissolved gas systems. Material balances. Chemistry relating to hydrocarbon behavior. List of symbols. References. Appendix: General correlations of hydrocarbon behavior. Index.

Note: Pressure-volume-temperature relations of the hydrocarbon systems actually found in underground oil and gas reservoirs are covered in this book, which was addressed not to chemists or other laboratory service but to petroleum engineers and geologists. The applications of laboratory tests to field conditions are the main theme. Problems such as good procedures in sampling are thoroughly discussed. There are 31 tables, 89 figures, practically all of which are graphical representations of PVT relationships, and bibliography of 50 references. The author is on the staff of the California Research Corporation.

ZABA, JOSEPH AND W T DOHERTY

Practical petroleum engineers handbook. Third edition, revised and enlarged. Houston, Texas Gulf Publishing Company 1949 654 p. illus. 23 cm. \$10 00 2419

Contents: General engineering data. Blends. Power transmission. Tubular goods. Drilling. Production. Transportation. Index.

Note: (4142a) A reference work for operators, engineers, superintendents, foremen, and others engaged in petroleum production. The book consists primarily of charts, tables, formulas, and other engineering data relating to the design of shafting, working pressures, connecting operations, gas lift and flow measurements, pump data, and pipelines. No attempt is made to deal with the chemistry and refining of petroleum. In this edition new charts and tables and revised specifications account for more than 160 additional pages.

METALLURGY AND METALLOGRAPHY

GENERAL

AMERICAN SOCIETY FOR METALS

Atom movements a seminar on atom movements held during the thirty-second National Metal Congress and Exposition Chicago October 21 to 27 1950 sponsored by the American Society for Metals. Cleveland The Society 1951 240 p. illus. 23 cm. \$5.00 2420

Contents: Formal basis of diffusion theory by L. S. Darken. Chemical techniques and analysis of diffusion data, by C. W. Wells. Tracer and other techniques of diffusion measurements, by E. E. Hoffman. Mechanisms of diffusion, by H. B. Huntington. Diffusion in alloys and the Kirkendall effect, by J. Bardeen and C. Herring. Volume diffusion—an empirical survey, by C. E. Birchmell. Grain boundary and surface diffusion, by D. Turnbull. Diffusion and high temperature oxidation of metals, by C. Wagner. Gas-metal diffusion and internal oxidation, by F. M. Rhines. Diffusion in slabs, by P. Dehrens. The migration of grain boundaries, by J. E. Burke. Summary by R. F. Mehl. Subject index.

Note: The term "atom movements" as employed in the papers comprising this volume has reference to the phenomenon of diffusion, particularly diffusion in metals and alloys. Each paper has been prepared by an expert in the field and is based on a review of the literature of the subject and on experiments conducted at research laboratories operated by the United States Steel Co., the General Electric Co. the Metallurgical Institute of Technology, and similar organizations. Extensive bibliographies and an index are included. The book is addressed to professional metallurgists.

AMERICAN SOCIETY FOR METALS

Cold working of metals A seminar on the cold working of metals held during the thirty-second National Metal Congress and Exposition Philadelphia, October 23 to 29 1948 sponsored by the American Society for Metals. Cleveland The American Society for Metals 1949 364 p. illus. 23 cm. \$5.00 2421

Contents: Introduction, by M. Genssmer. Strain hardening—effects of alloying elements and microstructure, by O. V. Smith. Macroscopic stresses in metals resulting from plastic deformation, by W. M. Balke. Structure of slip bands and cold-worked metal, by R. D. Heikens. The crystallographic mechanisms of translocation, twinning and banding, by C. S. Barrett. Dislocation tangles, by R. M. Bruch. Recrystallization (texture), by C. G. Dunn. Dislocation theory, by W. Shockley. Mechanisms of deformation, by J. H. Hollomon. The effect of strain hardening on the work hardening of metals, by T. E. Yarns and J. E. Dorn. Dynamics of slip bands, by C. Zener. Plastic after-effects, by J. O. Lachan. Work hardening under combined stresses, by L. R. Jackson. Creep of metals, by J. D. Lubinski. Cold work and aging, by A. M. Frenkel. The effect of plastic deformation on solid reactions, by S. L. Avdeyev and M. Cohen. The fracture stress of metals as affected by plastic deformation, the stress system, and size, by D. J. McHardy, Jr.

Note: In spite of the practical implication in the title of this book, most of the papers contained in it are devoted to fundamental theories and research. Some of the information presented has been derived from recent investigations and has been published for the first time. The papers are addressed to professional metallurgists, particularly those who are concerned with research or with the fundamental aspects of metal forming processes. They are accompanied by references to related literature.

AMERICAN SOCIETY FOR METALS

Grain control in industrial metallurgy A series of four educational lectures on grain control in industrial metallurgy presented to members of the A.S.M. during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948. Cleveland American Society for Metals 1949 279 p. illus. 23 cm. \$5.00 2422

Contents: The fundamentals of recrystallization and grain growth, by J. E. Burke. Recrystallization and grain control in ferrous materials, by R. L. Kinsman. Recrystallization and grain size control in copper and copper alloys, by H. Burghoff. Grain control to improve aluminum and magnesium products, by J. T. Deibel. A Glossary of Terms and Index.

Note: In this volume four experts acquainted with fundamental research in metallurgy discuss the subject of the highest importance in metallurgical design and metal working. The papers are addressed to practical metallurgists and are essentially seminars in technical terminology of the current knowledge of the subject. They are supplemented by graphs, tabulated data, illustrations, and bibliographies.

AMERICAN SOCIETY FOR METALS

High temperature properties of metal a series of five educational lectures presented to members of the A.S.M. during the thirty-second National Metal Congress and Exposition Chicago October 23 to 27 1950. Cleveland The American Society for Metals, 1951 176 p. illus. 24 cm. \$4.00 2423

Contents: Creep of metals, by R. R. Parker. Stress rupture testing, by M. J. Gens. High temperature fatigue testing, by R. J. Grover. Methods of high temperature oxidation testing and evaluation of oxides, by C. Wagner. Some experiences in oxidation (cover: oil and chemical plants) by J. J. R. Rutherford, Index.

Note: The papers in this book were addressed originally to professional metallurgists, but they are of interest also to mechanical engineers and machine designers, especially the design of gas turbine parts and other mechanisms that must operate at extremely high temperatures. In general, each paper is a summary of recent research, but all of the authors have also scanned the literature and incorporated the pertinent material. Each paper is accompanied by a list of references.

AMERICAN SOCIETY FOR METALS

Metal interfaces A seminar on metal interfaces held during the thirty-third National Metal Congress and Exposition, Detroit, October 13 to 19 1951 sponsored by the American Society for Metals. Cleveland American Society for Metals 1952 335 p. illus. 24 cm. \$5.00 2424

Contents: The atomistic theory of metallic surfaces, by C. Herring. Theory of internal boundaries, by E. Bravais. Grain shape and other metallurgical applications of topology, by C. A. Smith. Measurement of $\alpha\beta\gamma$ and $\alpha\beta\delta$ grain boundary energies, by J. E. Burke. Measurement of solid-solid interfacial energies, by J. E. Burke. Shapes and structures of grain boundaries, by E. T. Auer.

and R. Chalmers. Boundary migration during grain growth, by R. L. Fullman. Interface migration in recrystallization, by F. A. Beck. Phase relations across interfaces, by A. R. Mowbray. Phase transformations at interfaces, by A. H. Cottrell. Mechanical effects of interfaces, by R. Chalmers. Metal surface phenomena, by H. H. Uhlig.

Note: This volume contains original papers on topics which are of interest not only to metallurgists but also in physics and chemistry. They deal with the pertinent fundamental theory (techniques of scientific measurement), the effects of interface phenomena on stress relaxation, mechanical properties, etc. Although additional priority to metallurgists, the presentation in most of the papers is at a level that assumes familiarity on the part of the reader with the fundamentals of current atomic physics. Extensive lists of references are included. Most of the authors are associated with teaching and research in United States of America universities and industrial research laboratories.

AMERICAN SOCIETY FOR METALS

Properties of metals in materials engineering. A series of eight educational lectures on properties of metals in materials engineering presented to members of the A.S.M. during the thirtieth National Metal Congress and Exposition, Philadelphia, October 23 to 29 1948. Cleveland American Society for Metals, 1949 177 p. illus. 23 cm. \$5.00 2425

Contents: Introduction, by R. L. Tompkins. Fundamental concepts, by M. Genssmer. Behavior of metals under stress or temperature, by I. R. Low. Application of ultrasonic data to mechanical testing, by R. E. Peterson. Disaggregation of the state of stress, by W. M. Murray. Analysis of stress in aircraft sections, by W. T. Bean, Jr. Testing to specific deficiencies (buckling), by R. C. Sherwood. Design for energy absorption, by W. F. Roper. Index.

Note: The lectures collected in this volume were addressed to practical metallurgists. Each of the lectures presents a compact review of the current knowledge of the specific topic mentioned in its title. The text of each is supplemented by graphical and tabular presentations of engineering data and by references to the pertinent literature.

AMERICAN SOCIETY FOR METALS

Residual stress measurements. A series of four educational lectures on residual stress measurements presented to members of the ASM during the thirty-third National Metal Congress and Exposition, Detroit, October 15 to 19, 1951. Cleveland American Society for Metals, 1952 210 p. illus. 24 cm. \$4.50 2426

Contents: The nature, origin, and effects of residual stresses, by R. Q. Troughton. The measurement of residual stress, by J. J. Lynch. Residual stress states produced in metals by various processes, by D. R. Whitely. Relief and redistribution of residual stresses in metals, by H. G. Rickards. Index.

Note: The four lectures assembled in this volume are not limited to residual stress measurements as the book title indicates—but include also discussions of such aspects as the nature and origin of residual stresses, their beneficial use in such well-known processes as hardening by heat treatment and by shot peening and their relation to corrosion where they are undesirable. The book as a whole is essentially first course in the subject for some who are thoroughly familiar with metalurgical terminology and basic concepts. Although it is primarily of interest to metallurgists who are concerned with the working of metals, it holds some interest for technical men in other fields such as structural engineering and machine design.

AMERICAN SOCIETY FOR METALS

Thermodynamics in physical metallurgy. A seminar on thermodynamics in physical metallurgy held during the thirty-first National Metal Congress and Exposition, Cleveland, October 15 to 21, 1949 sponsored by the American Society for Metals. Cleveland The

American Society for Metals, 1950 317 p. illus. 23 cm. \$5 00. 2427

Contents: The principles of thermodynamics, by F. W. Bridgman. The role of statistical mechanics in physical metallurgy, by C. Zener. Application of thermodynamics to heterogeneous equilibria, by L. S. Darken. Application of electromotive force measurements to phase equilibria, by F. J. Dymally. On equilibria of state and the phase diagrams of simple binary alloys, by A. W. Lawrence. The thermodynamics of binary metallic solutions, by J. Chipman. Physical factors affecting order in metallic systems, by C. E. Ruckenstein. Heterogeneous nucleation, by J. H. Rickman. Phase diagrams and precipitation from solid solutions of C and N in alpha-iron, by C. W. Vert. Eutectoid decomposition, by J. C. Fisher. Thermodynamics of the martensitic transformation, by M. Cohen and others. A nucleation problem in ferroperoxide, by L. J. Dijkster. Principles of solidification, by D. Turnbull. Contribution of thermodynamics to metallurgical research and operations, by J. R. Aron. Subject Index.

Note: A collection of papers on advanced topics in metallurgy. Although the papers are addressed primarily to professional metallurgists, they deal less with the everyday work of such fields than with the advancing fundamental knowledge from which industrial practices are eventually derived. Most of the papers are accompanied by excellent lists of references to related literature, and in a few cases transcripts of discussions are included. The volume is of interest not only to metallurgists but to physical chemists and physicists as well.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on corrosion of materials at elevated temperatures. Presented at the fifty-third annual meeting American Society for Testing Materials, Atlantic City N. J., June 26 1950. Philadelphia, Pa. American Society for Testing Materials 1951 121 p. illus. 23 cm. (Special technical publication no 108) Paper \$2.25 2428

Contents: Introduction, by G. T. Evans, Jr. Cold salt corrosion of metals at elevated temperatures, by C. T. Evans, Jr. Stress corrosion tests on turbine-supplier materials in the products of combustion of liquid propellants, by G. B. Wilcox, Jr. Crusts on surface dependent phenomena, by M. R. Pichon and E. R. Porter. The effect of environment on the stress-strain properties of metals at elevated temperatures, by G. Carter Dwyer and Wilfrid Schindler. Preliminary studies of the effect of oxidizing nitrogen atmosphere on the rupture strengths of Inconel "X" and Inconel, by A. M. Talbot and E. M. Mikan. Hydrogenating effect of stress on ferrous alloys at elevated temperatures, by C. A. Lepile and F. Z. Leonard. Oil salt corrosion of materials at elevated temperatures, by C. T. Evans, Jr. The growing role of protective coatings for metals in high-temperature service, by W. N. Hordman.

Note: These original papers were written for the information of metallurgists and engineers engaged in the design and construction of machines and industrial equipment subject to extremely high temperatures. Based on investigations conducted by experts in the field, they provide technical information regarding the behavior of various engineering materials under elevated temperatures. Discussions are included, and the paper as a whole contains an extensive bibliography.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on deformation of metals as related to forming and service. Presented at the fifty-first annual meeting American Society for Testing Materials, Detroit, Mich., June 22 1948. Philadelphia, Pa. American Society for Testing Materials, 1949 117 p. illus. 23 cm. (Special technical publication no 87) Paper \$2.00. 2429

Contents: Introduction, by L. L. Wynne. Tests of ductility in deep structure, by Wendell P. Roper. Match sensitivity of stress-strain correlation of laboratory-scale tests with large-scale plate tests, by Frank A. Kahn and Earl A. Lombardi. Measurement of ductility in sheet metals, by John R. Low, Jr. and Thomas A. Frost. Hy-

drastic tests testing of sheet metals, by W. T. Lankford. Notched bar tension tests on annealed carbon steel specimens of various sizes and contours, by H. L. Fried and G. Sachs.

Note: A collection of original papers by outstanding research metallurgists. It reflects the most fundamental knowledge of plastic deformation and flow of metals and contains descriptions of new tests which are useful in relating this knowledge to metallurgical and structural design. There is some emphasis on metallurgical problems in shop design, but the usefulness of the material is not limited to this field. The papers are accompanied by abstracts of the discussions at the meeting, illustrations, and selected lists of references.

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on metallography in color
1948 Presented at the fifty first annual meeting American Society for Testing Materials, Detroit, Mich., June 21 1948 Philadelphia, Pa. American Society for Testing Materials, 1949 64 p. illus. (part col d) 23 cm. (Special technical publication no. 86) Paper \$4.50

2430

Contents: Introduction, by L. V. Foster. Metallography in color by R. P. Levinson. Microscope optics for color metallography by James R. Bickford. Quality and quantity of illumination in color metallography by R. P. Levinson. Inset plates in a four-color process illustration. Color metallography simplified, by Blaise Chapp. J. Some applications of color metallography by W. R. Farnum. The application of color photography to the study of non-metallic inclusions, by A. M. Hall and R. E. Fletcher.

Note: In these papers are described various techniques which have been developed for making photomicrographs in color of metal specimens. The procedures are based on the research and experience of the authors, all of whom are experts in the fields of metallurgy and metallography. The illustrations include reproductions in color of 27 photomicrographs. Lists of references and discussions of the papers are included.

BARRETT CHARLES S

Structure of metals crystallographic methods principles and data. Second edition. New York McGraw Hill Book Company Inc., 1952 661 p. illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) \$10.00

2431

Contents: The fundamentals of crystallography. The monographic projection. X-rays. Diffraction of X-rays by crystals. Laws and first-crystal methods. Rotating-crystal methods and the reciprocal lattice. The powder method. The determination of crystal structure. Pole figures and orientation determinations. Descriptions of constitution diagrams with X-rays. Structure of metals and alloys. Superconductivity. The electric theory of metals and alloys. Stress measurement by X-rays. The plastic deformation of metals. Dislocation theory. The structure of cold-worked metal. Preferred orientations resulting from cold work. Preferred orientations after annealing. Orientations in castings and in deformed sheet. Anisotropy. Age hardening and transformation. Diffraction of electrons, neutrons, and neutrons. Appendixes. Index.

Note: (4143) A substantial work which is used both as a text in crystallography for advanced students of metallurgy and as a reference tool by metallurgists. It presents from the standpoint of metallurgy and metallography the fundamental knowledge and the techniques of crystallography and shows applications not only to the study of metals and alloys but also to their reactions to cold working and other treatments. It is well documented with facts and citations to pertinent literature. The appendices contain a variety of basic information on crystal structure, the intensity of X-ray reflections, etc. The first edition was published in 1945. The work was extensively revised for this edition, particularly in the discussion of such matters as creep, dislocation formation, and mechanisms and superconductivity. Literature references and tables have also been revised.

BRICK, ROBERT MAYNARD AND ARTHUR PHILLIPS

Structure and properties of alloys the application of phase diagrams to the interpreta-

tion and control of industrial alloy structures. Second edition. New York McGraw Hill Book Company Inc. 1949 485 p. illus. 23 cm. (Metallurgy and metallurgical engineering series, Robert F Mehl, consulting editor) \$7 00

2432

Contents: Equilibrium states of the metallurgist. Commercially pure metals. Solid solutions: copper base alloys. Cold working and annealing. Cast eutectic alloys: lead-base systems. Age-hardening cast- and wrought aluminum alloys. Alloys of magnesium. Phase transformations two-phase copper alloys. Low-carbon steels: annealed and as-received steels. Theory of heat treatment of steels. Heat-treated engineering steels, plain carbon and alloy types. Cast and alloy tool steels. Special corrosion- and heat-treated alloys. Cast brass. Monometallic, natural metal powders. Generalization. Index.

Note: (3166) A concise presentation of the knowledge from the field of physical metallurgy which is important to the understanding of alloys. The authors' theme is that alloys can be studied and understood only against a background of knowledge of the significance of phase diagrams, microstructures, the characteristic properties of the structure, and the effects of metal treating processes upon all three. The first edition of the book was comparatively brief. It has been greatly expanded in order to put it on a more complete and also to increase its value as a reference book for use connected with the specifications and use of alloys in industry. The illustrations matter now includes a large number of carefully reproduced photomicrographs.

BRIDGMAN PERCY WILLIAMS

Studies in large plastic flow and fracture, with special emphasis on the effects of hydrostatic pressure. New York McGraw Hill Book Company Inc., 1952 362 p. illus. 24 cm. (Metallurgy and metallurgical engineering series Robert F Mehl consulting editor) \$8.50

2433

Contents: (abridged) Part I. Tests under hydrostatic pressure. The tension of steel under pressure. Two-dimensional tension under pressure. Tension tests under pressure on materials other than steel. Simple compression under hydrostatic pressure. Punching under pressure. The collapse of thick, hollow cylinders of steel under internal pressure. The effect of external pressure on cylinders in liquid media. Wire drawing and extrusion under pressure. Part II. Plastic flow and fracture after prestraining. Simple tension after prestraining. Simple tension after prestraining in simple compression. Simple compression after prestraining in simple compression. Simple compression after prestraining in two-dimensional tension. Tension after prestraining in tension under pressure. Index.

Note: In this new book Professor Bridgman, whose experiments in the domain of high pressure are internationally famous, has synthesized and interpreted the results of an extensive series of experiments made with the explicit purpose of understanding better the nature of both the phenomena of fracture under conditions of high stress and the phenomena of the large plastic flow which often precedes such fracture. Although the book is in the nature of a monograph, it is more than a monograph. It contains many important results. It contains many observations some of which are undoubtedly of broad practical interest in industry. It is potentially of interest to a wide group including professional physicists working in crystallography and the physics of metals and research metallurgists.

CLARK, DONALD SHERMAN, AND WILBUR R. VARNEY

Physical metallurgy for engineers. New York D Van Nostrand Company Inc., 1952 567 p. illus. 24 cm. \$6.50

2434

Contents: Metallurgy in engineering. Metals and alloy systems. Iron- and steel alloys. Heat treatment of steel. Plain carbon steels. Functions of alloying elements in steel. Low-alloy steels of common usage and surface treatment. Tool steels. Principles of corrosion. Corrosion- and scale-resistant metals. High-strength low-alloy steels. Cast steels. Precipitation hardening and precipitation. Copper- and nickel-base alloys. Light metals and their alloys. Metal-

bury of cooling. Metallurgy of mechanical working. Metallurgy of welding, brazing, and soldering. Appendixes: AISI-AE carbon steel composition—1911. AISI-AE low-alloy steel composition—1911. AISI-AE alloy steel composition—1911. Typical heat treatments for AISI-AE alloy steels. Hardability bands for alloy steels. Typical oil-quench and tempering curves. Approximate hardness conversion table. Index.

Note: A textbook on physical metallurgy as it applies to the selection, treatment, and use of metals and alloys in engineering practice with emphasis throughout upon principles. The authors are professors of mechanical engineering at the California Institute of Technology where the subject-matter of the text has been presented over a period of many years in course on physical metallurgy for engineering students. A list of references and set of questions conclude each chapter.

CLARK, FRANCES HUED

Metals at high temperatures New York
Reinhold Publishing Corporation, 1950 372
p. illus. 23 cm. \$8.50. 2435

Contents: Introduction and theoretical aspects. Test methods and equipment for elevated temperatures. Plain-carbon and low-alloy steels. Chromium base, austenitic alloyed austenitic steels. Highly alloyed austenitic steels. Cobalt-base alloys. Nickel-base alloys. Non-commercial alloys. Manufacturing processes. Lower melting alloys. Soldering. Subject index.

Note: In the first chapter of this book the author presents a critical digest of the present knowledge of the plastic flow of the metals. The second chapter is devoted to test methods, but the remaining chapters are largely compilations of data gathered from the published literature. As might be expected, the greater part of the cited literature has been published in the past decade. About half of the text is made up of tables and graphical presentations of data. The text is concise discussion. Statements in the text and most of the tables and graphs, etc., are related by means of key numbers to columns of the source articles.

CURTIS FRANK W

High-frequency induction heating. Second
edition. New York McGraw Hill Book Com-
pany Inc., 1950 389 p. illus. 21 cm. \$7.00.
2436

Contents: Principles of induction heating. Induction-heating equipment. Design of induction-heating coils. Brazing, soldering, and heat-treating. Hardening and heat-treatment. Features of induction heating. Miscellaneous induction-heating applications. Designing for induction heating. Electric heating. Index.

Note: (1166) A survey of the applications of high-frequency induction heating in industrial processes. Though the chapter titles are essentially the same as in the first edition, the book has been thoroughly revised and new contents much material that did not appear in the original edition. A considerable part of this material relates to new features and innovations which have been developed as the application of induction heating have been extended. However the chapter on electric heating is still essentially an outline of this subject and is not intended to be comparable in comprehensiveness to that of the book. The book is of wide practical interest in manufacturing industries.

GILL, GLENN W, editor

Mechanical properties of metals at low temperatures. Proceedings of the NBS Semicentennial Symposium on Mechanical Properties of Metals at Low Temperatures held at the NBS on May 14 and 15, 1951 Washington, D C. Government Printing Office, 1952 206 p. illus. 24 cm. (United States National Bureau of Standards. Circular 520) \$1.50. 2437

Contents: Recent European work on the mechanical properties of metals at low temperatures, by R. P. Allen. Manufacture of steels for low-temperature service, by R. Austin. Development and properties of chromium-nickel steels for low-temperature service, by W. Crafts and C. M. Olsen. Tensile properties of copper, nickel, and some copper-nickel alloys at low temperatures, by G. W. Gell and H. L. Carver. Application of metals in service at low temperatures, by J. B. Johnson and D. A. Sifton. Properties

of austenitic stainless steels at low temperatures, by V. M. Kitzchek. Dimensional effects in fracture, by C. W. MacGregor and M. Grossman. Mechanical properties of high-purity low-carbon alloys at low temperatures, by R. L. Smith and others. Brittle fracture in alloy steels, by M. L. Williams.

Note: Printed in this book are nine papers delivered first at one of the symposia sponsored by the National Bureau of Standards in connection with its semicentennial in 1951. Each symposium is followed by transcription of the discussion that followed at the symposium and by bibliographical references.

GILLET, HORACE WADSWORTH

The behavior of engineering metals. New
York John Wiley & Sons, Inc., 1951 395 p.
illus. 24 cm. \$6.50. 2438

Contents (abridged): General considerations. Tests and specifications. Standard service. Stresses and surface stress, external and internal. The statistical approach. Chemical and physical properties. Tempering steels. Weight state of intermetallic strength. Heat-treated steels. Cold worked metals. Ferritic castings. Steel, cast and weldable alloys. The graphite family. Important nonferrous cast alloys and their behavior. Aluminum casting methods. Light wrought alloys: titanium and zirconium. Some low carbon and some precious heavy metals. Metal behavior as affected by hydrogen. Machinability. Lubrication, die, and cast metals. Metal films and surfaces. Powders and subjects made by powder metallurgy. Heat-treated metals. Surface and wear service. Service at high and low temperatures. Alternate materials, cast, conventional, metal. Appendix: Sources of more detailed information. Author index. Subject index.

Note: Here the special knowledge of the physical metallurgist is integrated for the users of metals who do not have special training in metallurgy. The book can well be used by each person as a companion to the standard compilations of engineering data about metals. It is in no sense a reference book of data; but it does contain brief discussions of such topics as the properties of structural steel and what affects these properties, methods of testing the properties of metals, magnetic properties of metals, and the effects of cold working. Many special points and "tricks of the trade" are included that would be hard to find assembled elsewhere. Good selected lists of references accompany the chapters.

GUY ALBERT G

Elements of physical metallurgy Cam-
bridge Addison Wesley Press, Inc., 1951.
293 p. illus. 25 cm. \$6 50 2439

Contents: Introduction. A survey of metallurgy. Atomic structure. Crystal structure. Equilibrium diagrams. Structure of alloys. Physical properties. Elasticity of metals. Plasticity of metals. Corrosion. Deviation in metals. Recovery recrystallization and grain growth. Age hardening. Heat treatment of steel. Appendix: Literature of metallurgy Index.

Note: An introductory work for college students who have completed courses in basic physics, chemistry and calculus. The treatment includes considerable emphasis on phase diagrams and has other up-to-date features. A short bibliography is appended to each chapter and to addition there is discussion of the principal routes to metallurgical literature and of methods of searching them for information on problems. The author is a member of the Faculty of the University of North Carolina.

GWIAKOWSKI, ALEXANDER PETER

Engineering metallurgy Appleton, Wilson
and C. C. Nelson Publishing Company 1950
247 p. illus. 24 cm. \$4.00 2440

Contents: Metals and their properties. The static properties of metals: strength, structure and composition of ferrous alloys. The static properties of nonferrous alloys: composition and uses. Strength, impact and wrought forms. Rolling processes. Applications of S. A. E. steels. Heat treatment of ferrous alloys. High-speed and commercial tool steels. Corrosion and heat treating steels. Processing of rolled steels. Cast ferrous alloys. Cast steels. Light non-ferrous alloys. Heavy non-ferrous alloys. Bearing metals. Finished steel products by system. Review questions. References for further reading. Index.

Note: A compact presentation of metallurgical information useful to engineers who are concerned with the selection of metals for unworked parts. It is designed for use as a textbook in selecting college courses, but it is suitable also as a survey of selected, practical information for graduate engineers, purchasing agents, etc.

LYON, RICHARD N., AND OTHERS

Liquid-metals handbook: a guide to the use of liquid metals as heat transfer media. Editor in-chief Richard N. Lyon. Sponsored by The Committee on the Basic Properties of Liquid Metals, Office of Naval Research Department of the Navy in collaboration with The Atomic Energy Commission and The Bureau of Ships, Department of the Navy Second edition. Washington, D. C. Government Printing Office, 1952 269 p. illus. 26 cm. Navexos P-733 rev) Paper \$1.00. 2447

Contents: Industrial utilization of liquid metals, by D. L. Katz. Physical properties of liquid metals, by R. R. Milner. Chemical properties and laboratory techniques, by C. B. Jackson and R. M. Adams. Corrosion of materials by liquid metals, by R. C. Milner. Liquid-metal heat transfer, by R. M. Lyon and H. V. Proppendell. Experimental liquid-metal heat-transfer systems, by T. Tscheli. Liquid metal catalyzed heat-transfer system components, by T. Tscheli. Availability of liquid metals, by L. R. Kramer. Index.

Note: A handbook of documents and data on all metallic elements and their alloys. Rich with at 60° C. or below and are potentially useful as heat-transfer media. This new edition is considerably enlarged and revised from the original edition of 1949.

MURRAY WILLIAM M., editor

Fatigue and fracture of metals: a symposium held at the Massachusetts Institute of Technology June 19-22, 1950 Edited by William M. Murray With a foreword by Jerome C. Hunsaker New York Published jointly by the Technology Press of the Massachusetts Institute of Technology and John Wiley & Sons, Inc. 1952 313 p. illus. 24 cm. \$6.00. 2448

Contents: General survey of the problem of fatigue and fracture, by E. M. Corns. The fatigue problem in airplane structures, by L. L. Dyer and others. Brittle fracture and fatigue in alloys, by J. J. Bonner. Brittle fracture and fatigue in masonry, by R. E. Peterson. Internal stresses and fatigue, by O. J. Hazzard and H. R. Mahler. Ductile fatigue, by K. L. Thompson. Fundamentals of brittle behavior in metals, by E. G. Corwin. Experimental study on tensile fracture of slightly alloyed carbon steel, by P. A. Jorgensen and A. R. Wall. The statistical aspect of fatigue failure and its consequences, by W. Weibull. A review of cumulative damage in fatigue, by M. M. Newman. Significance of transient temperature in fatigue, by C. W. MacGregor. The influence of metallography on fatigue, by P. L. Tsai. Fatigue at elevated temperatures, by M. L. Gross. The technique of physical metallurgy for studying fatigue damage, by J. T. Westin.

Note: A collection of original papers which were presented first at conference which was planned to focus attention upon the fatigue and fracture of metals as an engineering problem. Together, they convey pictures of the developed knowledge and practical experience, summarize recent advances, and point out problems still in need of basic research.

SAMANS CARL HUBERT

Engineering metals and their alloys. New York The Macmillan Company 1949 913 p. illus. 24 cm. \$10.75. 2449

Contents: General characteristics of the metallic engineering materials. The pure metal. Metallurgical methods. Production of the metals—metallurgy, aluminum, and steel—from their ores. The production of pig iron and cast iron. Iron and steel making. Production of the metals—copper, nickel, lead, and tin—from their ores. The theory of alloys. The principles of heat-treatment, shaping, and forming the metallic materials. Corrosion, its effects and control. Protecting metals against corrosion. Alloys used largely because of ease of fabrication. Pipes, tubes, and coatings resistant to water corrosion. Alloys resistant to chemical corrosion and the action of acid. Alloys for applications requiring high strength and

toughness. Alloys resistant to general wear and abrasion. Tool materials. Bearing alloys. Alloys used because of their special physical properties. Index.

Note: Although intended primarily as a textbook, the comprehensive nature of the work makes it suitable for use also as a reference work for practicing engineers. All phases of metallurgy are treated but about three-fourths of the space is devoted to engineering materials. The book is especially outstanding for an extensive range of technical data relating to the properties of the eight major engineering metals and their alloys. As the chapter titles indicate, alloys are grouped and discussed from the standpoint of their uses. There are 555 figures, many of which are reproductions of photomicrographs. Selected references to additional literature are appended to the chapters.

SCHUHLMANN REINHARDT, JR.

Metallurgical engineering Volume 1: Engineering principles Cambridge, Mass. Addison Wesley Press Inc. 1952 390 p. illus. 25 cm. (Addison Wesley metallurgy series, Morris Cohen consulting editor) \$7.50. 2450

Contents: The steel process of chemical metallurgy. Steelmaking. The heat balance, Metallurgical fuels. Combination of heat and heat utilization. Field flow. Steady heat flow. Unsteady heat flow. Flows in pyrometallurgical systems. Refractory materials. Appendix. Index.

Note: A college textbook in which the traditional approach to the teaching of extractive metallurgy has been discarded in favor of teaching the basic principles and main processes. The importance of physical chemistry is demonstrated, and analytical and quantitative methods of engineering problems are emphasized. In this first volume basic principles common to the steel process of extractive metallurgy, together with elements of metallurgical fuels and refractory materials, are considered. The second volume, which will complete the work, will be devoted to the steel process itself. The book is based on experience in teaching at Massachusetts Institute of Technology where the author is Associate Professor of Metallurgy.

SHRAGER, ARTHUR M.

Elementary metallurgy and metallography New York The Macmillan Company 1949 297 p. illus. 24 cm. \$3.00. 2451

Contents: The structure of metals. Slip, plastic deformation, and recrystallization. Alloys and microstructural changes. Structure of cast iron and steel in the solid state. Iron ore. Chemistry involved in the metallurgy of iron and steel. Production of pig iron. Cast iron and wrought iron. Steel. Bessemer steel. The open-hearth process. The electric arc furnace. Light practice. Working, shaping, and joining of iron and steel. Principles of heat treatment of steel. Annealing, hardening, and tempering steel. Surface hardening of steel. Alloy steels. Copper and copper alloys. Aluminum and aluminum alloys. Magnesium and magnesium alloys. Zinc. Cast and hot-chamber casting. Foundry practice. Bibliography. Tables. Glossary. Index.

Note: An excellently written and most importantly inclusive introduction to metallurgy and metallography. The main facts of each topic treated above are presented in semi-technical terminology. The book is intended for use in vocational high-school courses and other courses attended by practical workers. It is also good book for lay reading and elementary reference work. The twenty-page bibliography adds to the references value.

SMITH GEORGE V

Properties of metals at elevated temperatures. New York McGraw Hill Book Company Inc. 1950 401 p. illus. 23 cm. (Metallurgy and metallurgical engineering series Robert F. Mehl, consulting editor) \$8.00. 2452

Contents (abridged): Plastic deformation of single crystals. Plastic deformation of polycrystalline metal. Creep of polycrystalline metals. The fracture of metals. Theories of flow and fracture. Tests and test equipment. Effect of chemical composition on creep. Effect of melting and desulfurization practices, heat-treatment, and grain size. Effect of varying temperatures and load and of the state of stress. Changes during service-aging and microstructural changes. Diagrams for elevated-temperature service. References. Appendix. Notes. Index. Subject index.

Note: This book is comprehensive presentation of the knowledge which has been accumulated in the last quarter-century pertaining to the effects of high temperature upon metals and on the behavior of metals and alloys for high temperature service. It is devoted to basic knowledge rather than applications, and is intended for graduate metallurgists and physicists. The statements in the text are keyed to bibliography of 418 references. The author is on the staff of the Research Laboratory of the U. S. Steel Corporation.

SPELLER, FRANK NEWMAN

Corrosion causes and prevention Third edition. New York: McGraw-Hill Book Company Inc., 1951. 686 p. 24 cm. \$11.00. 2453

Contents (abridged): Nature and mechanism of corrosion—Theories of corrosion. Influence of methods of manufacture and treatment. Influence of factors external to the metal—composition. Influence of factors internal to the metal—classification of corrosion. Principles and methods of corrosion testing. Prevention of corrosion in the atmosphere—moderation—in closed water systems by removal of dissolved gases—in steam generators—in steam and hot-water heating systems—in chemical industries—underground. Stray-current corrosion (electrolysis). Cathodic protection. Appendix. Index.

Note: (1911) Since 1924, has the first edition was published, this work has been known as an authoritative, useful presentation of the knowledge of corrosion of the ferrous metals. It is written from the practical viewpoint, but the theoretical aspects are adequately outlined in the present edition. There are new chapters and full amount of revision. The type has been reset.

STANLEY, JAMES K.

Metallography and magnetism. A series of three educational lectures on metallography and magnetism presented to members of the ASM during the thirtieth National Metal Congress and Exposition Philadelphia October 23 to 29 1948. Cleveland: American Society for Metals 1949. 156 p. illus. 23 cm. \$4.00. 2454

Contents: Magnetic theory and definitions. Types of magnetic materials. Factors affecting magnetic properties. Magnetic materials—a metallographical tool. Appendixes: Conversion table. Treatment of magnetic materials. References. Index.

Note: A short but informative introduction which is addressed to metallographers rather than to physicists. The treatment stresses familiarity with metallographical concepts, terms, and with the rendering of coppering graphs. Essentially the work is an outline which is adequate in itself for the metallographer, but would serve generally understandable of magnetism. However key points directly in the text refer to the bibliography which includes 237 references to papers and periodical articles.

STANLEY, NORMAN R.

Induction heating. New York: McGraw-Hill Book Company Inc. 1949. 212 p. illus. 24 cm. \$5.00. 2455

Contents: Introduction. Basic induction heating—class A service. Circuit systems. Circuit analysis. Applications—class A service. Heating metals—class B service. Power circuit conductor—machine frequencies. References. Appendixes. Index.

Note: The use of induced electrical currents for the heating or heat-treating of metals is the subject of this book. Clearly the author presents the basic electrical and thermal principles in terms which are understandable to engineers. Much of the information is presented mathematically and graphically. Altogether there are 31 tables and 154 figures. Typical applications are discussed also but there is no special effort to show wide range of available commercial equipment. The appendix contains a range of information useful to engineers who are concerned with the design and operation of induction furnaces and other induction heating equipment.

WOLFF, JOHN, AND OTHERS

Metallography for engineers: casting, welding and working. By John Wolff, Howard F. Taylor and Amos J. Shaler. Illustrations by George E. Schmidt, Jr. New York: John Wiley & Sons Inc., 1952. 624 p. illus. 22 cm. \$6.75. 2456

Contents (abridged): Crystalline structure and properties of metals. Impurity and solubility. Phase equilibrium and alloy systems. Industrial uses of various alloys. Alloys of iron and carbon. Heat treatment of steel. Methods for determining mechanical properties of metals. Mechanism of deformation and effects of deformation of metals. Electrical and magnetic properties of metals. Corrosion. Introduction to sand casting processes. Casting processes other than sand casting. The ingot as casting. Molding—heat flow—grain in metals. Powder metallurgy. Welding. Brazing and soldering. Metal working by compression processes. Stripping, shearing, and bending processes. Metal cutting. Appendix. Index.

Note: The extraction of metals from their ores is not covered in this book, but otherwise it is an inclusive treatment particularly suited to the needs of engineering students and graduate engineers. More interest in metals is combined to their properties and working. There are brief but clear explanations of such basic lines as the phase rule and of such processes as investment casting. Selected literature references are included with each chapter. The appendix contains nine tables of general usefulness in metal specification and design. The authors are members of the Department of Metallurgy of Massachusetts Institute of Technology.

POWDER METALLURGY

GOETZEL, CLAUD GUENTER

Treatise on powder metallurgy. New York: Interscience Publishers, Inc. 1949-52. 3 vol. illus. 23 cm. Vol. I \$18.00. Vol. II, \$18.00. Vol. III \$22.00. 2457

Contents (abridged): Volume I, Technology of metal powders and their products. Principles. History. Methods of powder production. Characteristics and properties of powders. Methods of testing powders. Powder conditioning and function of addition agents. The sintering of powders into solid forms. Dens and porosity. Present-day pressing apparatus and techniques. Sintering processes. Heat-treated working. Finishing treatments. Author index. Subject index. Volume II, Applied and physical powder metallurgy. Refractory metals and alloys. Hard metals and composites. Electrical materials and products. Magnetic materials and products. Materials for structural parts. Porous products. Friction products. Dental alloys. Comparison of physical properties of sintered and fused industrial metals and alloys. X-ray analysis of sintered metal structures. Application of testing methods for sintered metals. Theories of sintering and sintering. The future of powder metallurgy. Author index. Subject index. Volume III, Chemical and metallographic bibliography. Part one, literature survey. Part two, patent survey. Patent cross index. Subject index. Name index.

Note: A comprehensive survey of the science and technology of powder metallurgy. It is based on the literature and on the author's personal experience in the field. He is Director of Research for the Research Corporation of America and also Adjunct Professor of Chemical Engineering at New York University. Although the practical theory is adequately covered, most of the space is devoted to the

use taken up with the technical aspects. Manufacturing, fabrication, and testing methods are presented in detail. Statistics in the text or listed in the literature citations. There are full figures in volumes I and II. The bibliography is classified and contains full indexes. There are 899 pages in this volume.

KINSTON, WALTER E. editor

The physics of powder metallurgy. A symposium held at Bayville, L. I., New York, August 24-26 1949 sponsored by the Metallurgical Laboratories, Sylvania Electric Products Inc. New York: McGraw-Hill Book Company Inc. 1951. 404 p. illus. 24 cm. \$9.00. 2458

Contents: Fundamental problems of sintering processes, by W. E. Kingston and G. F. Hecht. Mechanism of crystal growth, by P. A. Smollet. Orientation in recrystallization and grain growth, by P. A. Smollet. Orientation in recrystallization, by M. Rabin and B. Zaslavskii. Sintering mechanisms, by M. Rabin and B. Zaslavskii. Sintering mechanisms, by D. Tordella and J. H. Hollomon. Surface tension mechanism, by D. Tordella and J. H. Hollomon. Relationship between sintering and plasticity, by C. Herring. Relationship between structure and strength of sintered material made up of single stress type, by G. F. Hecht and others. Striking of sintered porous in copper, by A. W. Paulsen and A. J. Shaler. Relation between diffusion and viscous flow in metals, by A. K. Alexander and others. Examination of sintering structures with the electron

microscope, by L. Deleale and G. A. Davis. Staining of copper-gold alloys, by F. Dueren and C. S. Sacks. Staining with lead phase, by F. V. Lenz. The slip-line and present status of lead phase, by C. G. Overland. Theoretical aspects of staining of carbides, by K. Kinsler. Experimental production of pure titanium carbide powder by means of carburizing gases, by V. Faltinsen. Nature of metal powders prepared by reduction of oxides, by R. Kapustin. Particle-size distribution of tungsten and molybdenum powders, by A. D. Feyer and L. M. Kalinick. Electrical properties as indicators of the degree of staining, by H. H. Hansen and J. H. Dabrick. Fundamentals of staining of metal powders, by R. F. Sealey. Alloy powder products from fully alloyed powders, by G. J. Comstock and J. D. Shaw. *Waste Index. Subject Index.*

Note: A valuable contribution to the literature of this subject. Although there is much in it that is of interest to men directly in charge of the production of metal parts from metal powders, fundamental aspects rather than details of technique are stressed. The papers are accompanied by condensations of the discussions that followed their presentation and many of them contain literature references.

IRON AND STEEL

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS

Basic open hearth steelmaking by the Physical Chemistry of Steelmaking Committee, Iron and Steel Division A I M E. Second edition, completely revised and enlarged. Edited by W. O. Philbrook and M. B. Bever in collaboration with H. B. Emerick and B. M. Larsen. (Sponsored by the Seeley W. Mudd Memorial Fund) New York: The American Institute of Mining and Metallurgical Engineers, 1951. 940 p. illus. 26 cm. \$8.00. 2459

Contents: Part I, Practice: Basic open hearth furnaces, by R. E. Work and H. M. Beale. Survey of operations, by T. S. Washburn. Open hearth refractories, by R. E. Sweeney and others. Open-hearth fuels, combustions, and instrumentation, by H. V. Flegg and others. Raw materials, by T. L. Joseph and others.slag control, by W. O. Philbrook and F. M. Washburn. Charging and melting practice, by W. O. Philbrook and others. Refining practice, by W. O. Philbrook and others. Finishing and desulfurizing practice, by R. E. Beale and R. E. Kapp. Melts and pouring practice, by H. J. Penryth and L. G. Eklund. Ingot structure and segregation, by J. W. Bailey. Metallurgical background, by C. E. Roman. Properties of steel as influenced by composition, by A. G. Fennel and R. W. Farley. Part II, Principles: Physical chemistry of high-temperature reactions, by J. Chapman. Kinetics of metallurgical processes, by L. S. Darken. Physical chemistry of liquid steel, by John Chipman. Physical chemistry of slag-metal reactions, by G. Derge and M. Tomschek. Physical chemistry of open-hearth reactions, by R. E. Sweeney. Thermal changes in melting and refining, by L. S. Darken. Gas flow and heat transfer, by R. M. Lenz. Combustion and utilization of fuel, by R. M. Lenz. Rates of open-hearth reactions, by R. M. Lenz. *Index.*

Note: (491) In this book the most important progress for the metallurgy of steel is described both for workers with only practical materials and for supervisors and metallurgists who need more basic understanding. The work is cooperative one and the authors of the various chapters are prominent metallurgists, chemists, etc. currently associated with steel manufacturing or with the teaching of metallurgy in colleges of engineering. Useful literature lists are included in the chapters. The first edition was published in 1944. Extensive progress was made in preparing this edition, and the book is now about 300 pages longer.

ciety for Testing Materials. Special technical publication no. 93) Paper \$2.50 2460

Contents: Introductory summary by V. L. LaQue. Present knowledge of low-carbon steels, by E. W. Gillet. Corrosion resistance and mechanical properties of low-carbon austenitic stainless steels, by D. C. Back and others. Accelerated corrosion testing of chromium-nickel stainless steel weldments, by F. K. Eklund and M. R. Corbush. An appraisal of methods for evaluating the corrosion resistance of stainless steels, by M. R. Brown and others. Some observations on tests for intergranular susceptibility of 18-8 stainless steels, by H. Ebling and M. A. Schell. Influence of carbon and molybdenum on the intergranular corrosion resistance of austenitic chromium-nickel steels with and without columbium, by W. O. Eklund and C. M. Brown. Comparative corrosion resistance of stainless steels in various acids, by R. E. Myers and others. Comparison of direct corrosion test results on austenitic stainless steels with results of Hazy and Brown tests, by H. O. Temple. Results of some pilot corrosion tests of welded stainless steels, by G. F. Comstock. Tinting multiple specimens of stainless steels in modified boiling sulfuric acid test apparatus, by W. R. DeLong. General discussion.

Note: The symposium of which this publication presents the papers was sponsored by A.I.M.E. Committee A-10 on Iron-Chromium, Iron-Chromium-Nickel, and Related Alloys. Its purpose was to permit critical appraisal of some of the testing methods in use for evaluating certain corrosion-resistance characteristics of these alloys.

BULLENS DENISON KINOSLEY AND OTHERS

Steel and its heat treatment. Volume III: Engineering and special-purpose steels by D. K. Bullens and the Metallurgical Staff of the Battelle Memorial Institute. Fifth edition. New York: John Wiley & Sons, Inc., 1949. 606 p. illus. 24 cm. \$8.50 2461

Contents: Section I, Engineering alloy steels. Limitations of carbon steels. Alloy effects on equilibrium and nonequilibrium diagrams. Alloying elements present in minor percentages. Behavior and costs of some individual alloying elements. Alloy steels for manufacturing. Section II, Constructional alloy steels for heat treating: Simple alloy steels. History of double-alloy steels. Complex alloy steels. Steel castings. Toughness and serviceability at high temperatures; quenching stresses and quenching cracks. Steels for quenched and tempered applications. Alloy steels for carburizing. Section III, Special steels: Nitriding steels. Steels for low-temperature service. Ferritic steels for high temperatures use, their properties and weldability. Austenitic steels for high temperatures use. Steels for corrosion and high-temperature resistance, especially chromium. Steels for wear resistance. Cutlery and tool-and-die steels and tool steels. High speed tool steels. Steels for magnetic use. Index of steels. Subject index.

Note: Volumes I and II of the fifth edition of this useful work were reviewed in entry 2114 in *Scientific, technical and technical books published in the United States of America—Supplement of books published 1945-1949*. The third volume corresponds in scope to volume of the fourth edition. As over the first two volumes, this volume has been very thoroughly revised. It presents the current knowledge of the relationship between the presence of the various alloy elements and the use of various heat treatments upon the properties of commercially used steels and steel alloys. The treatment is theoretical in the sense that the various known effects are related to the underlying principles rather than as they are known; but the book is intended for practical engineers and metallurgists and is written from their viewpoint. Each chapter is accompanied by bibliography of considerable length.

COMSTOCK, GEORGE FREDERICK, AND OTHERS

Titanium in steel by George F. Comstock, Stephen F. Urban and Morris Cohen. New York: Pitman Publishing Corporation, 1949. 320 p. illus. 24 cm. (Pitman metallurgy series, Frank T. Sisco advisory editor) \$7.50 2462

Contents: The physical chemistry of titanium in steel. Phase diagrams of titanium alloys and compounds. Titanium in refining and desulfurized steels. Titanium in cast steel. Effect of titanium on structure and homogeneity. General effects of titanium on the properties of steel. Titanium in low-alloy steels. Effect of titanium on steels after. Titanium-containing steel. Carbide stabilization of

AMERICAN SOCIETY FOR TESTING MATERIALS

Symposium on evaluation tests for stainless steels, presented at the fifty-second annual meeting of the American Society for Testing Materials, Atlantic City June 30 1949 Philadelphia: American Society for Testing Materials, 1950. 231 p. illus. 23 cm. (American So-

scandium steel with titanium. Titanium is precipitation-hardening steel. Titanium is heat-treating steel and alloy. Bibliography. Name Index. Subject Index.

Note: A concise presentation of technical information on the effects of use of titanium as deoxidizer, carbon- and nitrogen-stabilizing element, and alloying metal in steel. Data are presented in short synopses, tables, and graphs, which are based mainly on the literature of the past two decades. Of the 274 references in the bibliography only 54 were published before 1950, and over half were published in the last ten years. The book is primarily of interest to metallurgists in the steel industry and secondary to engineers in the steel-using industries.

CRAFTS, WALTER, AND JOHN L. LAMONT

Hardenability and steel selection New York Pitman Publishing Corporation 1949 279 p. illus. 24 cm. (Pitman metallurgy series Frank T. Sisco advisory editor) \$5.50 2463

Contents: The hardenability pattern. Heating for hardening. The transformation of austenite. Quenching. Hardness and hardenability. Hardenability test methods. Jominy hardenability control. Tempering after hardening. Mechanical properties and hardenability. Factors in the selection of steel. Appendixes. Bibliography. Name Index. Subject Index.

Note: As these subjects point out, the heat treatment of steel was known in ancient times and the operations of quenching and subsequent tempering are described rather fully in early chemical writings. However, it is only in recent years that heat treating processes have been thoroughly studied and their effects correlated with conditions and results to the extent that the hardenability of steel of given composition can be predicted with fair accuracy. In the past two decades and especially in the latter one many investigations have been made and the periodical literature has grown tremendously. Essentially this book is condensed summary of the new knowledge. It is organized and written primarily for engineers and other technically trained persons. The text is supplemented by large amount of data presented tabularly and graphically. The bibliography contains 154 references.

JOSEPHSON G W AND OTHERS

Iron blast furnace slag production, processing, properties, and uses. By G W Josephson, F Sillers Jr and D G Runner A report prepared in cooperation with the National Slag Association based on data gathered and compiled by the Problems Committee of the Association. Washington D C. Government Printing Office, 1949 304 p. illus. 23 cm. (United States Bureau of Mines. Bulletin 479) Paper \$1.00 2464

Contents: Introduction. History and development. Production and processing of iron blast-furnace slag. Chemical and mineralogical composition of iron blast-furnace slag. Physical properties of blast-furnace slag. Blast-furnace slag as aggregate for Portland cement concrete. Blast-furnace slag as aggregate for flexible-pavement bases and surface. Chemical and concrete uses of blast-furnace slag. Blast-furnace slag, roofing, and other uses. Appendixes. Materials required per cubic yard for concrete and cement mortars. By F. H. Hildner. Composition of sulphatic concrete, hot- and cold-laid types, by F. Hildner and others. Specifications and methods of tests—A.S.T.M., Federal Specifications Board, and A.A.R.D. Miscellaneous test procedures. Useful tables. Comprehensive bibliography. Index.

Note: This bulletin is devoted to iron blast-furnace slag, its production, processing, physical and chemical properties, and utilization. It is intended for engineers, contractors, architects, chemists, and others who wish to understand and more successfully use this by-product of the iron and steel industry.

SEABRIGHT LAWRENCE H

The selection and hardening of tool steels. New York McGraw-Hill Book Company, Inc., 1950 263 p. illus. 24 cm. \$6.00. 2465

Contents: Introduction. Classification of tool steels. Primary steel requirements. Concrete chemical analysis of steels in each group. Tool steels classified by wear-toughness ratio. Chemical composition of representative tool steels. The wear-toughness ratio in tool steel.

recommended steels for various applications. Part 2, Wear-toughness ratio; Group 1. Maximum wear resistance—movement in hardness unimportant. Group 2. General cutting tools—movement in hardness unimportant. Group 3. General die work—movement in hardness unimportant. Group 4. Maximum toughness—movement in hardness unimportant. Part 2, Oil- and air-hardening steels; Group 5. Maximum wear resistance—movement in hardness unimportant. Group 6. General cutting tools—movement in hardness unimportant. Group 7. General die work—movement in hardness unimportant. Group 8. Maximum toughness—movement in hardness unimportant. Part 3, High-speed and hot-work steels. Group 9. Maximum wear resistance—resistance to high temperatures important. Group 10. General cutting tools—resistance to high temperatures important. Group 11. General die work—resistance to high temperatures important. Group 12. Maximum toughness—resistance to high temperatures important. Appendix. Hardness conversion table. Temperature conversion table. Producer and distributor. Index of tool steels. Subject Index.

Note: A compact reference book designed as a systematic guide to the composition and properties of the commercially available tool steels. Information on the heat treatment and working of the individual steels is included also. The book will be useful to tool designers, metallurgists, and other technically trained people who work requires an understanding of tool steels. In the "Index to tool steels," steels marketed in the U.S.A. under trade names are illustrated and the names of the suppliers are given.

ZAPPE CARL ANDREW

Stainless steels an elementary text for consumers. Cleveland American Society for Metals 1949 368 p. illus. 23 cm. \$5.00. 2466

Contents: Historical background of the stainless steels. The common elements of the stainless steels. The metallurgical constitution of the stainless steels. Martensitic stainless steels. Ferritic stainless steels. Austenitic stainless steels. Production, fabrication and finishing. Chemistry. Bibliography. Author Index. Subject Index.

Note: The consumers referred to in the title are not the ultimate purchasers of parts, pipes, automobiles, etc., but manufacturers and purchasers of parts who buy stainless steels for fabrication into finished products. The book provides nonmathematical discussions of the various important alloys known as stainless steels. The emphasis is on their properties, but considerable amount of space is given also to the history of the stainless steels and to the ways in which they are manufactured. An excellent glossary and an extensive bibliography of the periodical and patent literature are included.

VARIOUS METALS

AMERICAN SOCIETY FOR METALS

Physical metallurgy of aluminum alloys. A series of five educational lectures on physical metallurgy of aluminum alloys presented to members of the A. S. M. during the twenty-eighth National Metal Congress and Exposition Atlantic City Cleveland American Society for Metals 1949 247 p. illus. 23 cm. \$5.00. 2467

Contents: Equilibrium diagrams of aluminum alloys, by W. L. Flack. Metallurgy of aluminum alloys, by F. Kofler. Commercial aluminum casting alloys, by W. K. Gilkey. Comprehensive wrought aluminum alloys, by J. A. Black, Jr. Thermal treatment of aluminum alloys, by E. H. Dux, Jr.

Note: A collection of lectures originally addressed to non-ferrous metallurgists, but of increasing interest to metallurgical research and development in practical ways. All metallurgical research and development in the past few years has been concerned with and is related to the discussion. Especially impressive is the bibliography of 111 references on the determination and interpretation of equilibrium diagrams. The lecture on metallurgy includes many excellent microphotographs of structures.

BARKSDALE JELKS

Titanium its occurrence, chemistry and technology New York The Ronald Press Company 1949 591 p. illus. 24 cm. \$12.00. 2468

Contents (abridged) The discovery of titanium. Quality and technology of titanium. Production and impurities of titanium bearing ores. The chemistry of elemental titanium and its oxides. The chemistry of titanium salts. Organic compounds of titanium. Methods of chemical analysis of titanium compounds. Production of sulfate solutions of titanium for pigment manufacture. Hydrolysis of titanium sulfate solutions. Filtering and washing hydrated titanium dioxide and recovery. Composite pigments. Calcining, milling, and processing titanium dioxide to produce pigments. Colored titanium dioxide and titanium pigments. Chloride processes of pigment manufacture. Fluoride, nitrate, sulfide, and chlorosulfate processes of pigment manufacture. Titanium pigment industry. Uses of titanium pigments. Iron and steel. Nonferrous metals and alloys. Heat alloys. Electrical industry. Corrosion. Medicines and dyes. Catalysts. Special applications. Literature cited. Index.

Note: A comprehensive survey of the science and technology of the metal titanium and its derivatives. A considerable part of the volume is devoted to the production of titanium pigment for use in paint and elsewhere as an absorbing or coloring material. However, all of the reported uses are described, including such specialized applications as magnets in chemical analysis. The bibliography covers the international literature, including the patents. It runs to 77 pages and contains several thousand references.

DEAN REGINALD SCOTT

Electrolytic manganese and its alloys. New York: The Ronald Press Company 1952 257 p. illus. 24 cm. \$12.00 2469

Contents: Production and properties of electrolytic manganese. Numerous alloys of electrolytic manganese. Ferrous alloys of electrolytic manganese. Index of names. Index of subjects.

Note: The author of this technical monograph was leading figure in the development of electrolytic manganese during his years of association with the United States Bureau of Mines. Here he presents the current knowledge of both the metal itself and its alloys. The treatment of the production and properties of electrolytic manganese runs to only 22 pages; hence more than two-thirds of the book is given to descriptions of the alloys. These descriptions include wide range of specific data on properties, heat treatment, and applications. The book is based on a report of the periodical and patent literature, and each of the chapters is accompanied by long list of references.

DORR, JOHN VAN NOSTRAND, AND FRANCIS L. BOSQOT

Cyanidation and concentration of gold and silver ores. Second edition. New York: Mc Graw Hill Book Company Inc. 1950 511 p. illus. 24 cm. \$9 00 2470

Contents: Part 1: Technical: Historical. Economics and testing of ore. Ore crushing, sorting and sampling. Fine grinding. Classification. Final treatment. Slime treatment. Concentration. Flotation. Amalgamation and bottom recovery. Final control. Cyanidation and recovery of silver. Cyanide regeneration and miscellaneous processes. Part 2: Descriptive: Treatment of gold ores. Treatment of silver ores. Ores and process. Appendices. Detailed reference bibliography. Index on cyanidation. Analytical methods. Index.

Note: (4087) The standard book on the economically important processes of recovering gold and silver from ore. The first edition was the work of the senior author alone. In the present edition the book has been reorganized and extensively rewritten. Important technical subject sections were discussions of the treatment of refractory ores and the chemistry of cyanide solutions. The descriptions of considerable number of ore treatment plants which have been constructed since 1934 are now included in the second part. The work is of interest to advanced students in mining engineering and to practicing engineers.

MANTELL, CHARLES LATNAM

Tin: its mining, production, technology and applications. Second edition. New York: Reinhold Publishing Corporation, 1949 573 p. illus. 24 cm. (American Chemical Society monograph series) \$12.00 2471

Contents: History. Physical and chemical properties of the metal. Production, distribution, and consumption. Ores and ore deposits. Mining and ore dressing. Metallurgy. General reduction, leaching and metallic reduction. Electrolytic refining. Plating. Electrolytic tin plate. Constitutional thermal equilibrium diagrams—tin-iron alloys. Ternary and quaternary alloys. Alloys in industry. Hot-dipped coatings. Roll and cold-rolled tubes. Composites. Corrosion. Corrosion of the plate by food products. Secondary tin. Delineating of the plate scrap. Analytical methods. Name index. Mines and localities index. Subject index.

Note: A comprehensive monographic treatment. The larger part of the book is concerned with the metallurgy of tin after it has been extracted from the ore, and with the chemistry and commercial uses of tin. There is little resemblance, other than subject, between the present edition and the first edition of the work published in 1932. The material is free not to any change in purpose but to the great increase in the knowledge and use of this metal, which has taken place during the past twenty years. The literature of the subject, including patents, is referred to in footnotes.

RAUDEBAUGH ROBERT JOHN

Nonferrous physical metallurgy. New York: Pitman Publishing Corporation, 1952 345 p. illus. 24 cm. (Pitman metallurgy series) \$9 00 2472

Contents: Aluminum and its alloys. Magnesium and its alloys. Copper and its alloys. Nickel and nickel alloys. Alloys of cadmium, lead, tin, and zinc. Some less widely produced nonferrous metals and their alloys. Powder metallurgy and refractory-metal composites. Author index. Subject index.

Note: A concise and practical account of the various techniques employed in the processing, fabrication, and application of the more important nonferrous metals. Particular attention is given to recent developments in the field such as the melting and casting of eutectic alloys, fabrication of ductile titanium, and the utilization of powdered metals. Numerous micrographs, tables of alloy properties and composition, and chapter bibliographies are included. Of interest primarily to metallurgical students and others requiring review of modern metallurgical practices.

MARINE ENGINEERING

ADAIR JAMIE AND THOMAS C GILLMER

Fundamentals of naval construction and damage control. Annapolis, Md. United States Naval Institute, 1951 272 p. illus. 28 cm \$6 00 2473

Contents: Planning and building the ship. Detailing and assembly of the ship. Resistance, propulsion and steering. Buoyancy. Explanation of floating bodies. Initial stability. Overall stability. Weight effects on stability. Impaired stability. Control of damage. Forces on ship involving motion. Submarine buoyancy and stability. By E. E. Allen. Weight and strength of ships. The ship's structure. Appendix. Approximate method of integration in ship calculations. Index.

Note: A textbook on damage control for the use of midshipmen in the course in the Department of Marine Engineering at the United States Naval Academy entitled "Naval construction and damage control." The authors emphasize the importance of such fundamentals as resistance, buoyancy and stability, resistance and propulsion, and weight and strength, to officers responsible for damage control. The textbook covers this basic area of theoretical naval knowledge, including the pertinent fundamentals of naval architecture.

UNITED STATES NAVAL ACADEMY

Naval auxiliary machinery Revised 1952 Annapolis, Md. United States Naval Institute, 1952 262 p. illus. (part col'd) 28 cm. \$4 00 2474

Contents: Piping, fittings and valves. Packing and heat insulation materials. Pumps and air ejectors. Blowers. Heat exchangers. Equipment. Condensers. Distilling plants. Feed water systems. Fuel oil system. Refrigeration equipment. Compressed air systems. Construction of all parts. Control instruments. Machinery outside the engineering spaces. Fire-fighting equipment. Appendix. Additional pumps. Additional forced draft blowers. Additional feed water systems and steam traps. Index.

Note: A textbook prepared for use in the United States Naval Academy. This publication covers not only the pumps, blowers, distilling plants, and the oil and water systems, but also the appliances essential to their continued effective operation as part of the naval engineering plant, such as piping, valves, fittings, and insulating materials. Also discussed in the light of their contribution to the ship's primary function are the refrigeration and compressed air systems. Coverage likewise extends to important shipboard auxiliaries located outside the engineering spaces, such as the steering gear, windlasses, and weight-lifting equipment. Emphasis is upon the details of construction and the operating principles of the machinery.

UNITED STATES NAVAL ACADEMY

Naval boilers, revised, 1949 Annapolis, Md. United States Naval Institute 1950 184 p. illus. 28 cm. \$4 00 2475

Contents: Elementary principles. Descriptive classification. Limitations on boiler capacity. General features in the development of marine boilers. Construction details of marine boilers. Boiler fittings. Parted convective boilers. Boiler feed water and its treatment. Fuel oil and fuel oil burners. Appendix. Terms. Fittings at parts obsolete or obsolete on naval boilers but still in use on merchant marine ships or shore establishments. Types and descriptions of boilers obsolete or obsolete on naval vessels but still in use on merchant marine ships or shore establishments. Specific designs and data on modern, common boiler types. General listing of, according to customary procedure with sample safety precautions. Index.

Note: A textbook developed at the United States Naval Academy and used there in the course taken by first-year midshipmen. It covers in descriptive style the construction features and operating principles

of steam generating equipment used in vessels of the United States Navy. Much of the material is of course applicable to similar equipment in merchant vessels.

UNITED STATES NAVAL ACADEMY

Naval turbines revised 1952 Annapolis, Md. United States Naval Institute, 1952 128 p. illus. 28 cm. \$4.00 2476

Contents: Elementary principles. Descriptive classification. Details of construction. Turbine accessories. Measurements and adjustment. Main propulsion turbine control and cruising arrangements. Auxiliary turbines and their control. Lubrication. Main propulsion shafting and propellers. Appendix. Additional turbine characteristics. Additional turbine accessories and similarities. Additional measurements and adjustments. Main propulsion turbine over-speed control. Index.

Note: Prepared primarily for the use of midshipmen of the United States Naval Academy. This textbook covers the details of construction and the operating principles of main propulsion and auxiliary turbines used aboard modern naval vessels. The subject matter is presented in descriptive manner in order to facilitate the student with the machinery he will encounter aboard ship and to provide background for the theoretical studies in subsequent courses in fluid mechanics and thermodynamics. The text is illustrated with extremely clear diagrammatic drawings and 2 folding plates show design details of different types of turbines. The book is included in the bibliography for promotion examinations of officers of the United States Navy and should be of value also to any seamen or engineers concerned with turbines on naval ships. The publication is a revision of *Naval turbines* published by the United States Naval Institute in 1948.

WOODS HOLE OCEANOGRAPHIC INSTITUTION

Marine fouling and its prevention. Prepared for Bureau of Ships, Navy Department, by Woods Hole Oceanographic Institution, Woods Hole, Massachusetts. Annapolis, Md. United States Naval Institute, 1952 388 p. illus. 27 cm. (Woods Hole Oceanographic Institution. Contribution no. 580) \$10.00. 2477

Contents: Part I. Problems of fouling: The effects of fouling. Ship resistance. Part II. Biology of fouling: The fouling community. Temporal sequences and biotic succession. The seasonal succession. Quantitative aspects of fouling. Geographical distribution. Relations to local environments. The principal fouling organisms. The history recorded from fouling. Part III. Prevention of fouling: The history of the prevention of fouling. The invention of protective devices. Factors influencing the attachment and adherence of fouling organisms. The prevention of fouling with toxic. The physical chemistry of compounds of copper and mercury and their interactions with sea water. Mechanism of release of toxic from paints. The distribution of the matrix and its ingredients. Characteristics of antifouling coatings. The design of antifouling surfaces. The testing of antifouling paints. The fouling of metallic surfaces. Interaction of antifouling paints and steel. Index.

Note: A monograph based on investigations made during the years 1940-1944 by the staff of the Woods Hole Oceanographic Institution. The purpose of the research was to increase scientific knowledge of the fouling process and of the way in which protective coatings act. The emphasis was upon explanation of the fundamental basis on which preservative techniques are based, rather than upon the improvement of existing paints and other antifouling publications, which includes many photographs and other illustrations and gives extensive bibliographical references, amounts to a complete encyclopedia on the subject of fouling, and should be of great value to persons interested in the problem, including naval architects, ship owners and operators, naval architects and engineers, paint manufacturers, shipbuilders, and all concerned with the maintenance of ships and various underwater installations.

NAVIGATION

CALAHAN HAROLD AUGUSTIN

The sky and the sailor a history of celestial navigation. New York Harper & Brothers, 1952 262 p. illus. 22 cm. \$4.00 2478

Contents: Navigation with a compass. Before the dawn of science. The beginnings of astronomy. Eratosthenes measures the earth. Claudius Ptolemy. The dark ages. The sailor's compass. The record of celestial. Prince Henry the Navigator. Columbus. Out of the printing press. Mercator and the sea chart. Three mathematicians—Napier Versier Andrew. The problem of latitude. The sextant. Longitude and time. The chronometer. Observations and elements. Bessel's. The Summer Sea. Mary. The development of the Summer sea. The future. Glossary.

Note: An informal account in which the slow development of navigation is dramatized in series of essays about outstanding men and discoveries. The author's style is personal and humorous, but his facts are based on extensive research. The book will appeal to anyone who doubts an easy-to-read story of the highlights of how man learned to find his way at sea. There is no index or bibliography.

COUGLE, CHARLES HURST

Cogle's practical navigation. Sixth edition, completely revised by I. J. Stephens. New York E. P. Dutton & Company 1952 823 p. illus. 25 cm \$15.00 2479

Contents: (abridged) The international and inland rules of the road. Extracts from general rules and regulations (sailing and coastwise) and navigation laws of the United States. Deck officer's instrument. Stationing and ball construction. Mathematics of navigation. Examination of tables in the American practical navigator (Beveridge). Coast navigation. Dead reckoning and day's work. Speed of ships by visual and percentage of speed. Construction of navigator's chart. Madeleine's sailing. Great circle sailing. Time. Latitude by meridian altitude of sun. Meridian passage of sun. Meridian passage of planet. Meridian passage of moon. Latitude by Polaris. Deviation of time sextant of sun. Deviation by star planet and moon. Longitude by star. Longitude by planet. Longitude by moon. The law of position. Intersection of lines of position by computation. Time and chronometer. Identification of stars.

Note: (ABR) A standard book of rules and problems for students and amateur navigators, first published in 1914. The treatment is elementary and practical, and only essential theory is included. This edition has been revised to conform with the changes in format of the American Nautical Almanac introduced in 1950. The Greenwhich hour angle (G.H.A.) system of computing time is now employed, and new material has been added on the magnetic compass, electronic aids to navigation, and best conservation.

DUTTON BENJAMIN

Navigation and nautical astronomy Tenth edition. Prepared for the instruction of midshipmen at the United States Naval Academy Original edition (1926) by Commander Benjamin Dutton, U. S. Navy Revised by Commander Edwin A. Belto U. S. Naval Reserve, under the direction of the Head of Department of Seamanship and Navigation, United States Naval Academy Annapolis, Md. United States Naval Institute, 1951 850 p. illus. (part col d) 76 cm. \$6.00 2480

Contents: Preliminary definitions; chart projections. Instruments used by the navigator. Magnetic compass errors. The sun. The moon. The stars. Dead reckoning and plotting. Electronic navigation. Nautical astronomy. Lines of position from celestial

observations. The various methods of correction of sextant altitudes. Computed altitude and azimuth. Finding L , d , and ct . The complete solution for celestial line of position. Latitude observations. Sunrise, sunset, moonrise, moonset, star identification curves of magnetic variation. The practice of navigation. Air navigation. Polar navigation. Lifeline navigation. The moon-sighting board. Appendixes. Index.

Note: (ABR) A standard text and reference book of navigation and astronomy for midshipmen and naval officers. The new edition is revised and enlarged, and includes complete explanation and discussion of the new type (1940) Nautical Almanac. The section on the gyro compass and log have been extensively revised; the chapter on the moon-sighting board has been expanded; and numerous other changes have been made to include recent developments. The edition also marks the substitution, to conform with the new practice, of "mean time" for "civil time."

GIBSON EDMUND A.

Basic seamanship and navigation. New York McGraw Hill Book Company Inc. 1951 414 p. illus. 24 cm. \$6.00 2481

Contents: Part I. Seamanship. General ship descriptive. Machinery. Ship handling. Towing and salvage. Courses and weather. Part II. Navigation. Rules of the road. Fundamentals of navigation. Navigational aids. Instruments. Time and temperature. Dead reckoning—plotting. Electronic navigation. Celestial navigation. Glossary. Index.

Note: A practical introductory guide. It is written in a lucid style, and there are about 170 reproductions of the drawings. Nautical language is used freely but basic terms are defined in the text where first introduced and others can be found in the 60-page glossary. The first part runs to about 190 pages. The 133-page second part contains an elementary but inclusive survey of present-day marine navigation, including electronic systems.

MIXTER GEORGE WEBBER

Primer of navigation. Third edition. With problems in practical work and complete tables. Revised for third edition by Ramon O. Williams. New York D. Van Nostrand Company Inc. 1952 553 p. illus. 24 cm. \$7.50. 2482

Contents: Introduction. Tools of the trade. The magnetic compass. Errors of the compass. Compass adjustment. Gyro systems. Lights, buoys, and beacons. They prevent collisions. Plotting. Rules on board ship. Merchant's rules. Dead reckoning. Lines and rules. Outward bound. Light-house in the sky. Summer sea. Nautical astronomy. The sextant and its use. Altitudes and their correction. The bubble sextant. Time. The chronometer and timekeeping. The Almanac and its use. The Air Almanac. Methods. The moon. Right. Polaris. Altitudes. Solutions for day. Days with the sun. The stars. Planets and the moon. All in day. Zero hour. Appendix. Index.

Note: (ABR) A comprehensive text for students of navigation and experienced seamen. Navigational methods are presented as simply as possible, and the treatment requires no mathematical knowledge beyond simple arithmetic. All tables necessary for solving the numerous problems and exercises are included. Like other basic on navigation published since 1950, this volume has been revised to conform with the changes made in the 1950 edition of the American Nautical Almanac. A chapter on electronic navigation and brief biography of George Mixter, who died in 1947 have been added to this edition.

ORMAN LEONARD M

Electronic navigation. Published jointly by Pan American Navigation Service and Weems System of Navigation. North Holly

wood, Calif 1950 222 p illus. 25 cm. \$4.50
2483

Contents: Introduction to radar. Capabilities and limitations of radar as navigational aid. Training of operators. Installation and maintenance. Loran. Other electronic navigation systems. Auxiliary radar devices. Appendixes: Available radar and loran. Questions and answers. Glossary. Bibliography. Index.

Note: A practical book for student navigators. It provides information on loran, decca, radar and several other electronic systems for finding position at sea and in the air. Both the U. S. A. and British systems are covered. The treatment is introductory and descriptive.

WILLIAMS RAMON O AND GEORGE WEB-
BER MIXTER

Navigation problems and solutions. Practi-
cal work—solutions—plotting—almanac data.
New York D Van Nostrand Company Inc.
1951 162 p illus. 28 cm. \$5.00 2484

Contents: Dead reckoning. Summer line work. Moon sight prob-
lems. Latitude by Polaris. Y solve for LOP. Work with the sun.

Three star data. Planet and moon work. Practical work. Maneuvers
to plot. Excerpts from Nautical almanac. Excerpts from Air almanac.
Excerpts from H. O. no. 214.

Note: A useful collection for student navigators. It contains
wide variety of problems which are similar to those given in Naval
Reserve Officers training courses in the United States of America.
Detailed solutions of these problems and almanac tables used in
working out the solutions are both included.

ZWENG, ALLAN C.

Practical manual of the E-6B computer.
Second revised edition. North Hollywood,
Calif Pan American Navigation Service,
1952 133 p. illus. 27 cm \$3.00. 2485

Note: A study guide and instruction manual for the E-6B com-
puter mathematical instrument which is very widely used in
solving problems in air navigation. In the exposition, mathematics
of the computer in solving various problems are explained step by
step. Many worked examples are included and there are several
hundred practice problems for the student. The first edition ap-
peared in 1944. Added in this edition are some new problems and
descriptions of two new computers, the E-6C and the E-1A.

AERONAUTICS

GENERAL

BAUGHMAN, HAROLD EUGENE

Baughman's Aviation dictionary and reference guide. Revised by Ernest J. Gentile & Charles Edward Chapel. Third edition. Los Angeles Aero Publishers Inc. 1951. 653 p. illus. 24 cm. \$7.50. 2486

Contents: (abridged) Dictionary; Definitions, 2nd edition. Abbreviations. New definitions, 1st edition. Reference guides: Radio information. Electrical nomenclature. Useful tables. Radio usage estimation. General structural symbols & formulas. General aerodynamics symbols & formulas. Specifications. Materials. Shop mechanics. Safety rules.

Note: (A445) A standard reference book. In this edition the main dictionary has not been revised but supplement containing 1,000 new terms has been added on pages 141-145. Various changes including some omissions have been made in the "reference guide" section. The reduction in length by approximately 150 pages has been accomplished mainly by having our Civil Aeronautics Administration material readily available elsewhere.

FOG ROBERT STEVENS AND OTHERS

Seaplane flying and operations by Robert S. Fogg, William D. Strohmeier and Daniel J. Brumm, Jr. New York Pitman Publishing Corporation 1949 218 p. illus. 24 cm. (Pitman books on private and business flying, Alexander Klemm advisory editor) \$3 75 2487

Contents: Foreword, by Admiral Richard E. Byrd. Introduction. Section I. Fundamentals of water flying: Types of water aircraft. Tacking and sailing. Docking procedure. Take-offs. Elements of flight. Landing, securing and handling. Cross-country flying and general techniques. Section II. Docks, construction, and maintenance: Rigging considerations. Preparation, installation, checking, inspection, maintenance, and repair. Section III. Seaplane power: Types of seaplane boats. How to operate a seaplane boat. Appendix. Index.

Note: A practical book for the noncommercial flyer and also for persons interested in going into the business of operating seaplane boats. The special techniques of handling planes designed to land on and take off from water are discussed from the beginner's standpoint. The book is thorough review of Scherer's *Seaplane maneuvering, maintenance, operation*, New York: Pitman, 1937

HUNBAKER, JEROME CLARKE

Aeronautics at the mid-century New Haven Yale University Press 1952 116 p. illus. 22 cm. \$3.00 2488

Contents: Fifty years of development. Air transportation. Social and political effects.

Note: A readable account of the past, present, and possible future of air transportation. The author traces the development of aircraft and discusses various aspects of the present air transportation business, including law, safety the human factor automatic control, airports, and private flying. The influence of the airplane on child and its use in rural areas is touched on, and its effect on nations in peace and in war is elaborated at some length. The book is one of series of volumes based on the Dwight Houghton Terry Foundation Lectures on *Reflections in the Light of Science and Philosophy* given at Yale University. The author is Professor of Aeronautical Engineering in the Massachusetts Institute of Technology

PIPER, WILLIAM THOMAS

Private flying, today and tomorrow in collaboration with D. J. Duffin New York Pitman Publishing Corporation 1949 295 p. illus. 24 cm. (Pitman books on private and business flying, Alexander Klemm advisory editor) \$4.50. 2489

Contents: Foreword, by Leighton Collins. What is private flying? How private flying grew. The role of women in flying. What the personal plane can do. Your personal plane. Flying, training, and the flying club. Operating costs and insurance. Learning to fly. Cross-country flying. Altimeter—the key to private flying. The future of private flying. Appendix: Organization of flying clubs. Index.

Note: Practically every aspect of present-day private flying is discussed in this book. The chief subtopics are named in the chapter titles quoted above. Also included are such things as complete picture sequences showing the various steps in taking a small plane aloft and performing various standard maneuvers with it; factual descriptions with photographs of all of the light private planes and five heavier ones being manufactured in the U.S.A. when the book was being written; a survey of the many uses of light planes with special emphasis on their use in agriculture; and model construction and use of by-liners for flying clubs. The author is president of the Piper Aircraft Corporation.

UNITED STATES. CIVIL AERONAUTICS ADMINISTRATION OFFICE OF AVIATION SAFETY

Flight instruction manual. Washington, D. C. Government Printing Office, 1951 184 p. illus. 26 cm. (United States Civil Aeronautics Administration. Technical manual no. 100) Flexible cloth, \$1.50 2490

Contents: Part one, Basic flight information. Load factors. Principles of safe flight. The parachute, its use and use. Part two, Principles of safe flight: Preliminary instruction. The flight syllabus. Basic flying techniques. Part three, Instruction: Elementary instruction. Intermediate instruction. Advanced instruction. Aerobically instruction. Seaplane instruction. Multi-engine instruction. Appendix: The flight instructor and the student. Glossary of aeronautical terms.

Note: An official reference manual for flying instructors and students. It supersedes five Civil Aeronautics Administration bulletins of 1940-1943 on subjects nos. 1, 2, 24, 28, 31 and 32. Each section of text covers some particular maneuver or phase of instruction, for example, the section dealing with loops, after describing the execution of the loop, includes eleven additional paragraphs explaining various difficulties met in executing the loop and means of avoiding them.

VARNY ALEX

The psychology of flight. New York D. Van Nostrand Company Inc., 1950 269 p. 21 cm. \$4.25 2491

Contents: Why pilots behave as they do. Adapting to the new environment. Why we get off the beam. The case of the absent-minded pilot. Learning to relax. Learning to observe. Developing reflexes. Learning to co-ordinate. The building of confidence. The building of judgment. How pilots can control his emotions. The need to win. The psychology of stress. When death strikes. The psychology of back fever and chills. The psychology of abstraction. The psychology of loss of control flying. The impairment of the pilot. The personality of the pilot. The key to private flying.

Note: An informal book addressed to student pilots and experienced pilots alike. In it the author, who has had long and varied experience as pilot and as head of flying school, skillfully discards the attitude of men toward airplanes and flight and shows not only what causes difficulties in learning to fly but also what leads experienced pilots into accidents. The book is not a scholarly one—in fact there is no documentation. Nevertheless, it belongs in

the pilot's personal library and in library collections used by student aviators.

AERODYNAMICS

ABBOTT, IRA HERBERT, AND ALBERT E. VON DORNHOFF

Theory of wing sections including a summary of airfoil data. New York McGraw-Hill Book Company Inc. 1949 693 p illus. 24 cm. (McGraw Hill publications in aeronautical science, Jerome C. Hunsaker, consulting editor) \$15 00 2492

Contents: The significance of wing-section characteristics. Simple two-dimensional flow. Theory of wing sections of finite thickness. Theory of thin wing sections. The effects of viscosity. Families of wing sections. Experimental characteristics of wing sections. High-lift devices. Effects of compressibility at subsonic speeds. References. Appendixes. Basic thickness forms. Mean line. Airfoil notation. Aerodynamic characteristics of wing sections. Index.

Note: A reference book of substantial value to aeronautical engineers who are concerned with the design of airplanes or with aerodynamic research. The authors are associated with the National Advisory Committee for Aeronautics, and the book is based largely on research carried out by this commission. Particular results and theories reported in the literature have, however, been incorporated. The first part of the book—which accounts for something less than half of the total length—consists of summarized critical presentations of current aerodynamic theories and condensed results of experimental work. The appendixes in the latter half of the book consist of tables and graphical data extracted under the headings listed above.

BONNEY E ARTHUR

Engineering supersonic aerodynamics. New York McGraw Hill Book Company Inc., 1950 264 p. illus. 24 cm. \$6.00 2493

Contents: Compression and expansion waves. One-dimensional flow—nozzle and diffusers. Two-dimensional characteristics. Airfoil characteristics. Bodies of revolution. Supersonic wind tunnels. Composite design and performance. Index.

Note: An introduction to this specialized field of aerodynamics. Although mathematics is freely used in the exposition, the work is not a mathematical treatment of the subject. Rather it is a statement of the basic physical principles combined with illustrations of their application in the design of aircraft. It is suitable for upper-class engineering students and also for engineers out of college who have studied courses in standard subsonic aerodynamics.

DAILEY CHARLES LEE, AND F C WOOD

Computation curves for compressible fluid problems. New York John Wiley & Sons, Inc. 1949 33 p illus. 29 cm. Paper \$3.00. 2494

Contents: Section I, Energy relations and least addition functions: Pitot functions of local Mach number; first addition to constant mean channel. Section II, Flow shock and expansion relations: Flow shock relations. Prandtl-Meyer expansion. Section III, Com flow relations—Taylor-Maccoll theory.

Note: (11147) A collection of twenty-six charts which depict explicitly the behavior of air as it flows past bodies moving at high rates of speed and under varying conditions of pressure, density, and temperature. The material has been prepared for the use of aeronautical engineers concerned with the design of wind tunnel nozzles and diffusers, jet engine designs and performance calculations, and with other problems involving compressible fluid flow. The manual is intended to supplement H. Lugonescu and A. Michelt's Introduction to aerodynamics of compressible fluid, New York, 1947 which provides detailed derivation of the theoretical aspects of the subject.

DOMMASCH, DANIEL O AND OTHERS

Airplane aerodynamics, by Daniel O Dommasch, Sydney S Sherby and Thomas F

Connolly New York Pitman Publishing Corporation, 1951 520 p illus. 25 cm. \$6.50. 2495

Contents (abridged): The atmosphere. Fundamental dynamics and thermodynamics of air. Airfoil theory. Wing theory. Drag. The propeller. Aircraft propulsion. The basic performance problem. Special performance problems. Massflow. Theory and design of control surfaces. Longitudinal stability and control. Lateral and directional stability and control. Section problems. Appendixes: Characteristics of representative NACA airfoils. Properties of the NACA standard atmosphere. Index.

Note: An unusual integration of aerodynamic theory practical problems in airplane design, and airplane characteristics and performance. It is the outgrowth of material prepared for course by experienced pilots, offered by the Test Pilot Training Division of the Naval Air Test Center. In essence, it is a presentation of the fundamental principles of airplane flight for men with extensive experience in flying planes. Greater attention is given to the broader aspects, but minor details, such as the effects of application of brakes during the landing run, also are analyzed.

FERRI, ANTONIO

Elements of aerodynamics of supersonic flows. New York The Macmillan Company 1949 434 p. illus. 24 cm. \$10.00. 2496

Contents: General considerations. Theory of two-dimensional flow—potential flow—characteristics of small disturbances. Theory of shock waves. Theory of two-dimensional flow—acoustics and reflection of shock waves and expansion waves. Theory of two-dimensional flow—characteristic theory for irrotational flow. Measurement of the physical quantities of supersonic flow. Supersonic profiles. Two-dimensional flows. Supersonic diffusers. General considerations for three-dimensional phenomena. Aerodynamic phenomena for bodies of revolution, analyzed by using the theory of small disturbances. Phenomena for conical bodies—hydrograph system. Characteristic system for three-dimensional phenomena. Pressure drag of supersonic wings. Lift and induced drag of supersonic wings. Appendixes. Index.

Note: This book deals chiefly with the physical phenomena of gas flow that are of significance in the prediction of the aerodynamic behavior of planes, projectiles, missiles, wind tunnel designs, etc., when air (or other gases) passes over their surfaces at supersonic speeds. The physical phenomena, the mathematical computation, and the applications are covered from the viewpoint of research and design and engineers concerned with aerodynamic research and design. Although introductory in the subject, the book is written at the graduate-professional level. The author is Chief of the Gas Dynamics Section of the Langley Aeronautical Laboratory.

HOLLAND, RAY JR.

The physical nature of flight. New York W W Norton & Company, Inc. 1951 287 p. illus. 22 cm. \$4.00. 2497

Contents (abridged): The atmosphere. Lift. Drag. Impact. Lift-off. The practical aspects of air flow. Pressure. The vortex. Flow separation. Camo trouble. The stall made harmless. Wing sections and streamlining. Wing planform long wings. The full planform of lift. Propulsion. Stability. Flight efficiency. How best looking about. Index.

Note: This book on airplane flight and the control of plane is outstanding for clear well-considered observations of both general principles and details. The whole anatomy of the subject is carefully dissected and described. The meanings of such terms as "stuck," "drag," and "downwash" are explained in simple terms and analogies. It is readable for lay readers, pilots, and even engineers who desire general rather than specialized introductions.

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LABORATORY

Handbook of supersonic aerodynamics. Department of the Navy Bureau of Ordnance. Compiled and edited under Bureau of Ordnance contract NORD 7386 by The Aerodynamics Handbook Staff of The Johns Hopkins University Applied Physics Laboratory Silver Spring Maryland. A Bureau of Ordnance

publication. Washington, D. C. Government Printing Office, 1950-52 3 v illus. 27 cm. (Navord report 1488) Looseleaf Vol. 1 1950, \$2.00 Vol. 2 1950, \$1.50 Vol. 4 section 12 1952 \$1.25 Other volumes and sections not yet published. 2498

Contents: Volume 1. Symbols and nomenclature. Fundamental equations and formulae. General atmospheric data. The mechanics and thermodynamics of steady one-dimensional gas flow. Volume 2. Compressible flow tables and graphs. Volume 3. Two-dimensional airfoils. Three-dimensional airfoils. Solid and ducted bodies. Volume 4. Mutual interference phenomena. Static stability. Dynamic stability. Aeroblastic phenomena. Volume 5. Viscosity effects. Heat transfer. Properties of gases. Mechanics of curved flows. Volume 6. Ducts, nozzles and diffusers. Free jets. Wind tunnel design and instrumentation. Measurement techniques. Miscellaneous problems.

Note: When completed this reference work will consist of series of the volumes presenting basic information in the field of supersonic aerodynamics and including together data and theories particularly applicable to the design of aerospace vehicles. The volumes are being issued in two-part form to permit the addition of supplementary material. Much of the information is presented as graphs and tables. References and indexes appear at the ends of the volumes already published.

KUETHE, ARNOLD MARTIN, AND J D SCHETZER

Foundations of aerodynamics. New York John Wiley & Sons, Inc. 1950 374 p 23 cm. \$5.75 2499

Contents: The fluid medium. Kinematics of fluid flow. Dynamics of fluid flow. The flow about a body. The airfoil. Finite wing. Introduction to compressible fluids. The energy relation. Some fundamental aspects of incompressible flow. Waves. Airfoils in compressible flow. Introduction to the dynamics of viscous fluids. Laminar flow in tubes and boundary layers. Turbulence. Turbulent flow in tubes and boundary layers. Transition from laminar to turbulent flow. Some aspects of viscous compressible flow. Aerodynamic characteristics of wings. Appendix. Problems. Author index. Subject index.

Note: An engineering college textbook in which the fundamental theory and concepts of aerodynamics are compactly surveyed. As the chapter titles indicate, perfect, viscous, and compressible fluids are all covered. The treatment stresses the physical aspects of aerodynamics with aerodynamic concepts or terminology but the reader will need previous knowledge of calculus. The authors are members of the Department of Aeronautical Engineering of the University of Michigan.

MILES EDWARD ROY CECIL

Supersonic aerodynamics, a theoretical introduction. New York McGraw-Hill Book Company Inc. 1950. 255 p illus. 23 cm. \$4.50 2500

Contents: Fundamental theory. Divergence and oblique shock. The potential equation. Characteristics in the plane. Linear theory of plane flow. The linear potential equation in three dimensions. Shock waves. Cases in supersonic flow. The method of characteristics for steady symmetric supersonic flow. Potential flow in the half-space plane. Comparison of subsonic and shock flow in two dimensions.

Note: In this work the current knowledge of aerodynamics laws and behavior of supersonic speeds is presented for advanced students of aeronautical engineering and for engineering school graduates already employed in the field. The emphasis is on mathematical methods in solving the problems involved, and good part of the text is concerned with the solutions of non-linear partial differential equations. Both computational and graphical methods of solution are considered. A knowledge of basic fluid dynamics is essential to understanding the text.

PERKINS, COURTLAND D AND ROBERT E HAGE

Airplane performance, stability and control. New York John Wiley & Sons, Inc., 1949 493 p illus. 24 cm. \$7.00. 2501

Contents: Part I. Airplane performance: Introduction. Drag estimation. Propulsion. Airplane performance. Part 2. Airplane stability

and control: Static longitudinal stability and control stick-free. Static longitudinal stability and control stick-free. Minwarming flight. Directional stability and control. Ducted effect and lateral control. Longitudinal dynamics. Lateral dynamics. Appendix. Index. **Note:** A sound presentation of aerodynamics as applied to airplane design in the subsonic range. It is addressed both to aeronautical engineering students enrolled in college courses and to graduate engineers already engaged in airplane design. It was developed over a period of years while the authors were associated with the Air Force Institute of Technology, the Boeing Airplane Company and Princeton University.

POPE, ALAN

Aerodynamics of supersonic flight, an introduction. New York Pitman Publishing Corporation 1950 184 p illus. 24 cm. (Pitman aeronautical publications aeronautical engineering series) \$4.00 2502

Contents: Fundamental relations. Flow in duct. Two-dimensional flow. The airfoil shock. Approximate theories. Supersonic wind tunnels. Three-dimensional flow. Appendix: Standard atmosphere. Index. Answers to problems.

Note: A brief survey of current theory and experimental methods. According to the author it is designed for use in one-semester college courses offered to students who wish to test their own interest in supersonic aerodynamics and thus determine whether to pursue the subject further. Previous college courses in calculus and elementary dynamics are assumed. The author's style is clear; the book is well organized and very generously illustrated.

POPE ALAN

Basic wing and airfoil theory New York McGraw-Hill Book Company Inc., 1951 294 p. illus. 24 cm. \$5.75 2503

Contents: Vector analysis. Complex variables and Fourier series. The stream function. Other flow functions. The Joukowski transformation. Airfoil construction and pressure distributions. Thin airfoil theory. Thick-airfoil theories. The delta wing. The sweptback wing. The field about the wing. Airplane load distributions for arbitrary wings. Miscellaneous applications of perfect fluid theory. Appendixes. Index.

Note: A textbook designed for use in engineering college courses offered to advanced undergraduate students. The treatment is intermediate in level between the freshly introductory texts and the graduate-level treatises. The author is a member of the faculty of the Daniel Guggenheim School of Aeronautics of the Georgia Institute of Technology.

SCANLAN ROBERT H. AND ROBERT ROSEN BAUM

Introduction to the study of aircraft vibration and flutter New York The Macmillan Company 1951 428 p illus. 24 cm. \$10.00 2504

Contents: (abridged) Basic mathematical techniques. The Lagrangian equations of motion and vibration theory. The linear single-degree-of-freedom system. The two-degree-of-freedom system. Self-excited systems. Damped beam vibrations. Two-dimensional flutter theory. Three-dimensional flutter theory. Experimental vibrations and flutter analysis. Normal (coupled) modes of vibrations. Solution of the flutter stability differential. Wing-suspension divergence, air-suspension reversal and effectiveness. Instrumentation and testing. Bibliography. Appendixes: General equations governing subsonic and supersonic flow. Subsonic incompressible theory of the forces on an oscillating airfoil in two dimensions. Oscillating air forces in subsonic compressible flow. Oscillating air forces in supersonic flow. Tables of subsonic incompressible aerodynamic coefficients. Index.

Note: An introduction to specialized though highly important aspect of aeronautical engineering. It deals mainly with classical theory and problems. However, there is chapter on sweptback wings and some chapters in the application of analysis of vibration and flutter under conditions of compressible flow. The mathematics employed includes matrix algebra. The book is suited to undergraduates and graduate engineering students and to professional engineers in need of an introduction to this special field. The bibliography runs to twenty-two pages.

AIRCRAFT CONSTRUCTION

NEVILLE, LESLIE E

Aircraft designers data book. New York
McGraw Hill Book Company Inc 1950 534
p. illus. 29 cm. \$12.50 2505

Contents: General design characteristics. Wing and auxiliary surface design. Empennage design. Fuselage body and tail design. Landing gear design. Control systems. Fuel and lubrication systems. Power plant installations. Miscellaneous design details. Rotating wing aircraft. Turbine engines. Index.

Notes. A valuable reference book for both engineers and draftsmen employed in the design of airplanes. It contains many hundreds of drawings, together with small water-color photographs, of the mechanical details of the structures and mechanisms of all types of modern airplanes. Compact descriptions of structures are also included. Condensed specifications of United States military personnel, and transport aircraft and of leading Canadian, British and French planes are tabulated in the appendix. Most of the material has been compiled from drawings and plans.

NORTHROP AERONAUTICAL INSTITUTE.
TECHNICAL DEVELOPMENT STAFF

Aircraft maintenance and repair by the
Technical Development Staff of Northrop
Aeronautical Institute. Charles Edward
Chapel, chief editor New York McGraw
Hill Book Company Inc. 1949 444 p illus.
29 cm. \$7.00 2506

Contents: Fundamentals of aircraft hydraulics. Flow control valves. Pressure control a/c. Hydraulic systems. Hydraulic brake actuated systems. Landing gear. Heat treating and inspection of metals. Aircraft gas training equipment. Gas training techniques for ferrous metal. How to weld aluminum alloy. Aircraft construction and repair by welding. Aircraft sheet metal tools, machines, and methods. Aircraft body work. Aircraft riveting. Recommended riveting machines. Aircraft jacking structures. Aircraft woodworking tools and machines. Glue, epoxy, and adhesives for aircraft woodwork. Construction and repair of wooden aircraft. Fabric covering. Dope and applications. Aircraft wire and cable work. Assembly and rigging. Weight, balance, and loading. Index.

Wires, Valves, and Seals, Index
 #26 (1967-1973) The third volume published in *aviation*, practical notes for student aircraft mechanics. The topics named in the chapter titles are discussed clearly and thoroughly and the discussion is supplemented by a generous number of well produced illustrations. The book is suitable for use both as a text in organized class instruction and as a home study manual. Like the others in the series, it is designed for mechanics and other practical workers rather than academicians.

PEERY DAVID I

Aircraft structures. New York McGraw
Hill Book Company Inc., 1950 566 p. 24
cm. \$7.00 2507

Contents (abbreviated)	Establishment of forces. Inertia forces and load factors. Shear and bending moment diagrams. Beams with unsymmetrical cross sections. Analysis of typical members of aircraft structures. External loads on the airplane. Mechanical properties of aircraft materials. Joints and fittings. Design of members in tension, bending, or torsion. Design of compression members. Design of webs in shear. Special methods of analysis. Appendixes.
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Note—A textbook written primarily for use in undergraduate work in engineering colleges. The author who is Head of the Department of Aeronautical Engineering of the Pennsylvania State College, has emphasized basic structural theory and methods of analysis. Little material has been included on the design of specific airplanes or the properties of specific materials. The chapters are supplemented by good lists of related literature.

STANLEY FRANCIS REYNOLDS

Weight-strength analysis of aircraft structures. New York McGraw Hill Book Company, Inc., 1952 394 p. illus. 24 cm. (The Rand series) \$8.50 2508

Contents: Part 1, Principles of optimum structural design. Methods of analysis. Principles of structural design for minimum weight. General instability of stiffened shells in pure bending. Minimum weight of stiffened cylindrical shells in pure bending. Effect of torsional-stiffness requirements on lag structural weight. Part 2, Structural-weight optimization. General weight-analysis methods. Weight analysis of the sheet-stringer-type type of wing structure. Elasticity depth of airfoil sections. Elimination of integration factors. Laminates and shear reduction factors. Wing ribs and secondary structures. Monocoque structural weight. Weight analysis of the thick plate type of wing structure. Weight analysis of this-wing structure. Weight analysis of fuselage and their structures. Part 3, Material properties and behavior. Analysis of stress-strain-time relationships. Stress-strain-time properties of some aircraft materials, by L. R. Fackman and others. Inelastic-column theory. Principles of wing buckling. Effect of creep on column deflection, by T. P. Higgins, Jr. Index.

Note. An important treatise for aircraft designers and stress analysts. It presents methods of analyzing and predicting the structural weight of aircraft and missiles. Part I discusses methods by which the minimum weight can be determined for any structural and conditions of loading. These principles of design for minimum weight are applied to such flight equations as wing and fuselage structure, the subject matter of Part II. A number of reports prepared in the course of investigations of the materials and stresses operating conditions are included in Part III. These reports demonstrate engineering methods by which the effects of temperature and time can be included in structural design and weight calculations. While not designed as a textbook, certain of its parts have been used by the author as basis for graduate course in structures, and some problems used in this course have been included in Parts I and II. Bibliographical references appear at the ends of each chapter.

TEICHMANN, FREDERICK KURT

Airplane design manual. Third edition.
New York Pitman Publishing Corporation,
1950 382 p. Illus. 24 cm. (Pitman aeronauti-
cal publications aeronautical engineering se-
ries) \$7.50 2509

Contract Procedure in design. Types of airplanes. Aircraft selection. Preliminary weight estimates. The three-view. The balance diagram. The cockpit. Instruments and equipment. The passenger compartment and seating. Snowbridging. The power plant. Design of the wing. The landing gear. Tail surfaces. Control systems. The fuselage. Preliminary performance calculations. Elementary structural stability calculations. Materials of construction. Appendix: Weight data. Miscellaneous design data on American airplanes. Appendix data. Material source data. Index.

plane data. Materials design data. Index.

Note (4417) An introduction to practical design of mechanical and their component parts. Although moderate amount of mathematics is used in some of the chapters (see examples the use of wing design), many topics are discussed in a qualitative manner. The book is particularly suitable for such students as production workers in machine shops, who are required to design simple, especially in the field of wing plants and structures. In this regard, it will be of great interest to the subject of structural design of jet engines, recent research and new structural materials.

TITTERTON, GEORGE FRANCIS

Aircraft materials and processes. Fourth edition. New York Pitman Publishing Company 1951 359 p. 24 cm. \$5.00 2510

Contents: Definitions. Testing aircraft materials. Steel and its alloys. Aircraft steels—properties and uses. Heat treatment of steel. Surface hardening. Stamping of metal. Coatings—protective. Aluminum alloys. Copper and its alloys. Wrought aluminum alloys. Al—Ni—Mg alloys. Copper and its alloys. Wrought aluminum alloys. Al—Mg—Mn alloys. Castings. Magnesium alloys. Metal joining processes. Corrosion and its prevention. Wood and glue. Fabrics and dyes. Plastics. Transparencies. Rubber and synthetic rubber. Textiles and their alloys. Index. Appendixes. Glossary. Subject Index.

Weld. R is widely used by most welders and fabricators in other trades to make good design and alloy in the metal addition in the present edition. However, other chapters contain new sentences and new paragraphs and occasionally new or more new pages.

UNITED STATES CIVIL AERONAUTICS ADMINISTRATION

Personal aircraft inspection manual. Washington D. C. Government Printing Office, 1950 81 p. illus. 26 cm. (United States Civil Aeronautics Administration. C. A. A. technical manual no. 101) Flexible cloth \$0.55
2511

Contents: Introduction. Part 1, Inspection fundamentals: The inspection process. The inspection process. The forces of stickiness. General inspection information. Part 2, Inspection techniques: Fuselage—tail. Cabin—cockpit. Engine—airframe. Landing gear. Wing—control surfaces. Empennage. Propeller. Radio. Miscellaneous. **Notes:** This manual is designed for the use of student mechanics, pilots, and personnel aircraft events. It provides general points for the inspection of personal aircraft and is intended to be employed in connection with manufacturers' service handbooks wherever possible. The details of inspection are described in simple, untechnical language, and photographic illustrations are provided in abundance to show the exact area under discussion and points to be checked.

UNITED STATES DEPARTMENT OF DEFENSE. MUNITIONS BOARD AIRCRAFT COMMITTEE

Wood aircraft inspection and fabrication. Department of the Air Force Air Materiel Command. Department of the Navy Bureau of Aeronautics. Department of Commerce Civil Aeronautics Administration. Issued by the Subcommittee on Air Force-Navy Civil Aircraft Design Criteria, Munitions Board Aircraft Committee. Washington, D. C. Government Printing Office, 1951 335 p. illus. 26 cm. (Bulletin ANC—19) Paper \$1.25
2512

Contents: Wood as an aircraft material. Identification of wood. General characteristics. Defects and blemishes. Requirements for wood in specific parts. Identified wood: Plywood, laminated wood, birch wood, balsa, heat-treated wood. Plywood. Glued laminated wood. Heat-treated plywood and laminated wood (impregnated and unimpregnated). Heat-treated composite wood (strychnine). High-strength laminated paper plastic (paper). Composite materials. Acetylated wood. Aircraft glues. Kinds. Properties of aircraft glues. Use characteristics of aircraft glues. Control of glue quality. Processing and fabrication: Laminating and storage of laminates. Control of humidity in factories. Gluing. Bag-machined plywood and structures. Gluing and assembly conditions. Temperature measurement. Machining, bending, and other woodworking operations. Finishing wood in aircraft. Propeller construction. Miscellaneous. List of specifications. Glossary. Index.

Notes: An illustrated bulletin for use in the inspection and fabrication of wood parts of military and commercial aircraft. The technical material, covering information on wood, laminated wood, glue, and processing, is based chiefly upon the results of investigations conducted by the Forest Products Laboratory of the United States Forest Service. The bulletin was prepared jointly by the Laboratory and by the ANC-19 Panel on Aircraft Construction for Aircraft of the Subcommittee on Air Force-Navy Civil Aircraft Design Criteria. Strength data and other design criteria are beyond the scope of this bulletin; for such data the reader is referred to Bulletin ANC-18, Design of wood aircraft structures (see below).

UNITED STATES FOREST PRODUCTS LABORATORY

Design of wood aircraft structures. Department of the Air Force Air Materiel Command. Department of the Navy Bureau of Aeronautics. Department of Commerce Civil Aeronautics Administration. Second edition. Issued by the Subcommittee on Air Force-Navy Civil Aircraft Design Criteria of the

Munitions Board Aircraft Committee. Washington, D. C. Government Printing Office, 1951 234 p. illus. 26 cm. (United States Department of Defense. Munitions Board Aircraft Committee. Subcommittee on Air Force-Navy Civil Aircraft Design Criteria. ANC—18 Bulletin) Paper \$1.00. 2513

Contents: General Purpose and use of bulletin. Manufacturing. Strength of wood and plywood elements. Physical characteristics and factors affecting the strength of wood. Basic strength and elastic properties of wood. Columns. Beams. Tension. Basic strength and elastic properties of plywood. Plywood structural elements. Flat rectangular plywood panels. Curved plywood panels. Joints. Methods of structural analysis: General. Wings. Fused and vertical. Movable control surfaces. Fuselages. Uprights and bulkheads. Detail structural design: General. Plywood covering. Beams. Ribs. Frames and bulkheads. Bulkheads. Joint details. Mechanical joints. Miscellaneous design details. Examples of actual design details.

Notes: A practical guide to the design of both military and commercial wooden aircraft. Information on the strength and elastic properties of structural elements constructed of wood and plywood is presented in Chapter 1, this information supplementing that contained in the June, 1944 edition of ANC-18, Design of wood aircraft structures. Chapter 2 contains suggested methods of structural analysis for the design of various aircraft components. Although these methods are in many cases the same as those used for metal structures, special considerations are introduced which take account the special properties of wood. The fourth chapter presents recommendations on the detail structural design of wood aircraft and contains some examples of how various manufacturers have treated the solution of specific detail design problems.

AIRCRAFT ENGINES

CASABASSA JACK V editor

Jet aircraft power systems principles and maintenance. New York McGraw Hill Book Company Inc. 1950 338 p. illus. 23 cm. \$6.50 2514

Contents: (abridged) History and design of jet machines: The evolution gas turbine engine (turbo jet). Gas turbine propeller combination (turbo prop). All-weather—piston and ram jets. Rockets. Theory and construction: Jet propulsion theory. Air intake, cooling, and exhaust systems. Thrust augmentation methods. Materials for gas turbines. Gas turbine fuel systems. Lubrication systems. Ignition and starter systems. Servicing and operation: Production problems. Inspection, maintenance, and overhaul. Jet transport. Accidents. Powered jet engine developed by Pratt & Whitney Aircraft. Cooling for "hot" plants. Cooling designs for jet transport. Lockheed's proposals for jet transport. Jet fuel (proposed). Russian jet designs. Glossary. Appendix. Visual aids. Index.

Notes: An introductory textbook designed for use with sea preparing for employment as mechanics on jet aircraft engines. Descriptions of the types of such engines and of their component parts comprise about two-thirds of the book. Only about one-third is devoted to servicing, maintenance, and operation operations. There are numerous special features of value to the instructor including numerous illustrations, study questions, references to other books, and glossary of jet terms.

DURHAM FRANKLIN P

Aircraft jet powerplants. New York Prentice-Hall, Inc., 1951 326 p. illus. 22 cm. \$6.65 2515

Contents: Introduction. Principles of thrust and the energy equation. Thermodynamic properties of air and gas. Turbine engine processes. Turboprop engine performance. Turbopropeller engine processes and performance. Direct flow and the inlet diffuser. Air compressors. Compressor characteristics or burners. Nozzle flow and the jet engine. Turbines. The engine engine. The rocket motor. Appendix. Index.

Notes: A college textbook intended for upper-level students in engineering colleges. The main types of jet powerplants, such as the turboprop engine, turbopropeller engine, and the rocket, are described very fully in the first chapter. After this introduction, the theory and the performance characteristics of jet engines and their component parts are covered. Algebra and calculus are both used in the mathematical computations, and the treatment assumes previous courses in thermodynamics and fluid mechanics.

PHOTOGRAPHY

ADAMS, ANSEL

Natural-light photography Basic photo 4
New York Morgan and Lester, 1950 118 p.
illus. 24 cm. \$3.00 2527

Contents (abridged) Qualities of natural light. Film response and filters. The polarizers. Visualizations. Landscapes. Seascapes. Sky and moving water. Snow and ice. Feltz Desert photography. Clouds. The moon and moonlight. Naturalistic details. The midwestern camera out of doors. Portraiture. Synchro-shootlight. Architecture and industry. Objects of art. Index.

— The print contact printing and enlarging Basic photo 3 New York Morgan and Lester 1950. 120 p. illus. 24 cm. \$3.00 2528

Contents (abridged) The expressive print. Photographic papers. Properties of photographic paper. The darkroom. Processing the print. Detailed description of making print. Detailed description of making an enlargement. Problems of color. Detailed description of toning, Etching and spotting of prints. Making plates for reproduction. Mass production of prints. Photo mural, oversize slide, screen. Portraiture. Index.

Note: (2279*) Two books in 6 book series written by this author. In the series the author presents a wide range of information on principles and technique with the avowed purpose of helping his readers develop personal approach to photography. The material goes beyond the needs of the average amateur photographer but is well suited to meet the needs of both amateurs and professionals who wish to do work with distinct individual quality. Included are long discussions of such common problems as the photography of moonlight and also of specialized techniques such as the use of polarizers.

ANTHONY ANNE J

Negative and print retouching for amateur and professional. Illustrations by the author
New York Greenberg 1950 138 p. illus. 27 cm. \$5.00 2529

Contents Part I. Negative retouching: "Look pleasant, please. The tools of the trade. The purpose and use of the retouching tools. The negative. The technique of pencil retouching. Dye retouching. Etching. Summary of the fundamentals. Corrective retouching. Correcting mechanical and processing errors. Now it's up to you. Part II. Print retouching. Photographic papers. General print retouching—basic equipment. Retouching the glossy print. Retouching the semi-matte print. Retouching the matte print. Retouching the vignetted and toned print.

Note: A practical guide to the art of correcting, improving, or altering photographs by working on the negative or print. Necessary materials and tools are listed, and the detailed descriptions of each process are supplemented with numerous illustrations and before-and-after photographs. The material is primarily of interest to the professional photographer, but is sufficiently simplified to meet the needs of the amateur.

CAMERON JAMES ROSS

Motion picture projection and sound pictures. 12th edition. Coral Gables Florida
Cameron Publishing Company 1952 869 p.
illus. 21 cm. \$12.50 2530

Contents (abridged) Early attempts at projection. Working principles of projectors. Special purpose projectors. Motion picture electricity. Light and lenses. Resistance in arc circuits. Open alignment check systems. Electronic-control arc lamps. Sound. Amplifier systems. Speaker systems. Picture projection. Simple sound equipment. RCA reproducing equipment. Matagrapic A-4 projector. Ampex Imperial projector. Slide projection. Stereoscopic pictures. Theater telephones.

Note: (4444) A text addressed to operators of motion picture projection equipment and to men studying for this occupation. As the chapter titles show part of the book is devoted to background information on electricity, optics, etc., and part of it to very specific information about particular makes of projectors. The book is not well organized but is, nevertheless, widely used because of the specialized information included.

CAMERON, JAMES ROSS

Sound motion pictures recording and producing With chapters on motion picture studio and film laboratory practice. Seventh edition. Coral Gables, Florida Cameron Publishing Company, 1950 879 p. illus. 21 cm. \$12.50 2531

Contents (abridged) Historical—early photography and motion-sound transmitters—elementary talking machines—recording and reproducing sound. Light and lenses. Sound. Electronic cameras. Studio practice. Editing. Rewinding. RCA recording system. Magnetic tape recorders. Disc recordings. Microphone techniques. The motion picture camera. Composite photographic processes. History of selected cartoons. Motion picture laboratory. Film processing. Film production for television. Production with Mac lamps. Stereoscopic reproduction. R.C.A. Fastanew. Visualized. Fluoroc projector.

Note: (4448) A widely used handbook of background and practical information for men concerned with the recording, editing, and projection of sound motion pictures. A good deal of historical information is included along with the practical. In the chapters devoted to specific sound systems or projectors the information given is addressed particularly to operators of the machines. Not outstanding for style or organization, the book is nevertheless useful because of the wide range of specialized information in it.

CHAMBERLAIN KATHERINE

An introduction to the science of photography New York The Macmillan Company
1951 292 p. illus. 24 cm. \$6.50. 2532

Contents How photography began. Making print. Film and their processing. Camera. Factors that influence the critical definition of the photographic image. Exposure and exposure meter. The graphs of photography. Projection printing. The reflection and refraction of light. The formation of images by pinholes and lenses. More photographic optics. The rendering of color in monochrome. Introductory considerations regarding color photography. The additive processes of color photography. Color transparencies by subtraction processes. Color prints. Appendix. Index.

Note: An elementary text designed to provide the amateur photographer with an understanding of the basic principles during the various operations leading to the production of a photograph. Much practical information is given regarding the selection of camera, the technique of contact and projection printing, the use of exposure meters, etc.; but emphasis is placed on the theory underlying photographic optics, formation of images, and making of negatives and prints. The fundamentals of color printing and the different color processes are discussed at some length.

FEININGER ANDREAS

Advanced photography methods and conclusions. New York Prentice-Hall, Inc., 1952 244 p. illus. 29 cm. \$7.50 2533

Contents: Part I. Thoughts about photography. Part 2. Experimentation. Part 3. Observation. Part 4. Investigation.

Note: An excellent American professional photographer has combined technical information with artistic thinking in this book, written for both amateur and professional photographers. Included in chapter on building photographic equipment for special needs is not limited by commercially available apparatus. The discussion of equipment are specific. The discussion of the artistic elements of

photography are less concrete but are none the less valuable. The book is illustrated with variety of outstanding photographs of various types.

FEININGER, ANDREAS

Feininger on photography Chicago Ziff Davis Publishing Company, 1949 409 p. illus. 29 cm. \$15.00. 2534

Contents: Part I, The technique of making photographs. The equipment of photographer. The materials of photographer. The camera. The functions of the camera. The processing of negatives and prints. Learning from mistakes. Part II, The art of making photographs: Contrasts and how to control them. Color and how to control it. Controlling space and perspective. Light and lighting. Motion. Planning and directing the picture story. Composition and the importance of the "intelligent." Conclusion and the "photographic" techniques.

Note: An earlier and somewhat more technical book than the author's *Advanced photography* described above. It contains very specific advice on such matters as buying and testing lenses, developing of negatives, and the control of light and shade. Though not a reference book, fair amount of reference material is included. The few references is hampered, however, by the lack of an index. The book is of interest to advanced amateurs and to beginning professional photographers. Originally published by the Ziff-Davis Publishing Company it is now available from Crown Publishers.

GIBSON, H. LOU

The photography of patients including discussions of basic photographic and optical principles. Springfield, Ill. Charles C Thomas, 1952 118 p. illus. (part cold) 22 cm. (American lecture series Ralph P. Creer, editor Publication num. 95) \$5.50 2535

Contents: Fundamentals. Equipment and space. Making close-ups with still cameras. Lens properties. Focusing and lighting. Film and filters. Printing methods. Paper selection, quality control and print quality. Appendix A. Index.

Note: A short, practical manual on the basic knowledge and technical aspects of photography that are useful in the practice of clear photography made in connection with medical research and practice. The author is a member of the Medical Division of the American Kodak Company.

KINGS LAKE, RUDOLF

Lenses in photography, the practical guide to optics for photographers. Garden City New York Published by the Case-Hoyt Corporation for Garden City Books 1951 246 p. illus. 22 cm. \$2.95 2536

Contents: Perspective. Light rays and lens aberrations. Light waves and how they behave. Diffraction and resolving power. Depth of field. The brightness of images. Types of photographic objectives. Lens attachments. Coloring and projection systems. Stereoscopic photography. Shutter. Camera view finders and range finders. Bibliography. Index.

Note: The principles and performance of camera lenses and related optical devices are discussed in this book from the viewpoint of the amateur photographer who wants to understand lenses in order to use his equipment intelligently. It is not a simple book of directions; instead, the author discusses the basic characteristics of lenses, provides diagrams of the successful types, and shows why they work as they do. Also included are specific instructions on optical matters such as multiplying enlarger systems so as to correct defects in negatives. The author is Director of Optical Design with the Eastman Kodak Company.

LESTER, HENRY M. editor

Photo-lab-index the cumulative formulary of standard recommended photographic procedures. John S. Carroll, associate editor Twelfth edition. New York Morgan & Lester 1952 Two vol. Loose-leaf illus. 22 cm. \$17.95 2537

Contents: Introduction and index. Areas. Illum. General. Development. Post. Eastman Kodak. Ektachrome. Film data. Filter data. Illumination. Photo papers. Microfilm—weights, measures, conversion.

slens. Photographic chemicals. Color data. Darkrooms. Color data. Photographic optics. Defects in negatives and prints. Transparency and slides. Copying. Photochemical processes. Bibliography. References. Television.

Note: (2115) A standard manual of useful information of technical data on photographic procedures, processing, and materials. Intended for reference use in photographic practice. The information included covers wide range. Part of it as in the section of weights and measures is general. A substantial portion applies particularly to the products of individual manufacturers. The work is published in loose-leaf binders and is kept up to date by quarterly supplements available by separate subscription of \$3.00 per year. Since the work is revised page by page and section by section as new products are introduced and new data become available, the present edition contains good deal of text that is the same as in the seventh edition, because there has been no need for revision. However, the necessary changes have been made and continue to be made as new quarterly supplements are published.

LURAY, HOWARD

"Strobe"—the lively light. With a foreword by Dr. Harold E. Edgerton. San Francisco Camera Craft Publishing Company, 1949 128 p. illus. 24 cm. \$4.00 2538

Contents: (abstract) Basic electronics for photographers. Choosing speedlight. Exposure and development—black and white. Filters, converters and development—color. Application to specific problems. Glossary. Electronic symbols. Bibliography.

Note: A brief practical manual on the use of high-speed general discharge lamps in making photographs by flashlight. It was written for professional photographers hence the preliminary chapters are devoted to an outline of the fundamental electronic principles. About three-fourths of the space is occupied by discussions of photographic techniques in which these high-speed lamps are advantageous. The illustrations include some remarkable examples of high-speed photography.

MCCOMBS, KENNETH MONROE

Commercial photography Chicago American Technical Society 1951 363 p. illus. 22 cm. \$5.00 2539

Contents: Commercial photography as a career. The first requirements of commercial photography. The camera system. Professional photographic films. The photographer's equipment. Working processes. Photographic printing. Print finishing processes. Outdoor photography. Night photography. Composition in professional photography. Models in photography. Studio portraiture. Portraits of special subjects. Third dimensional picture lighting. Commercial, fashion, and news photography. Illustrative photography. Color photography. Legal aspects of photography. How to sell pictures. New improvements in commercial photography. Year future in professional photography. Index.

Note: A very practical introduction. It is directed particularly for students who are studying commercial photography in trade schools. But it is suitable also for those learning this trade by themselves. Throughout the book the instructions are compact, specific, and often given in step-by-step style. The author is successful commercial photographer who is head of the photography department of the Los Angeles Trade-Technical Junior College.

MORGAN WILLARD DETERING AND HENRY M. LESTER, editors

The new Leica manual a manual for the amateur and the professional covering the field of Leica camera photography Twelfth edition. By Willard D. Morgan Henry M. Lester and 20 contributors. New York Morgan & Lester Publishers, 1951 427 p. illus. (part cold) 23 cm. \$5.00 2540

Contents: The Leica camera and equipment, by W. D. Morgan. Leica lenses and accessories, by I. S. Corbett. The Leica film—selection, exposure, and development, by A. Willard D. Morgan. The Leica camera, by H. M. Lester. Flash photography, by H. M. Lester. Electronic flash, by H. E. Edgerton. Darkroom, equipment, and enlarging procedure, by W. D. Morgan. Kolorprint process and printing, by A. Adams. Copying and close-up photography, by W. D. Morgan. Microphotography with the Leica, by S. F. Smith. Color photography, by H. M. Lester. The Leica in photo-journalism, by A. Rothstein. The picture story in industrial and public relations, by W. Vandivort. My way with the Leica, by A. Rothstein. Child

Photography

particulars with the Leica, by J. Rhodin. Lantern slides for projection, by W. D. Meyer. Visual communication of ideas, by R. de Koffer. Pictures by available light, by J. Darche. Tracing with the Leica, by J. Bryon. Mamm and the Leica, by A. Siegel. Philatelic photography with the Leica, by R. D. Kornhauser. Underwater photography with the Leica, by P. Stuckel. Medical photography, by W. M. Hall. Photomicroscopy and macrophotography at variable magnification, by E. O. Koller. Presenting the print—spotting, trimming, mounting, & display, by K. Cramer. Index.

Notes (221) is primarily guide for both amateur and professional users of Leica cameras, this manual has proved also as helpful to amateur camera users in general regardless of make of equipment. In the present edition the contents are new. Many new users are represented among the contributors and even the chapter written by contributors in former editions are new treatments.

NEHELETTE CARROLL BERNARD

Photography its materials and processes.
Fifth edition. New York D Van Nostrand
Company 1952 500 p. illus. 26 cm. \$10.00.
7541

Contents (abridged) Light sources for photography. Photographic optics. Photographic objectives. Photographic light filters. Photographic emulsions. Fundamentals of photochemistry. The photographic emulsion. Color sensitizing of photographic emulsions. The monofactors and physical properties of negative materials. The silver halide grain. The mechanism of exposure and the latent image. Photographic exposure effects. The theory of development. Photographic developers. Fixing and washing. Diffusion-transfer reversal processes. Photographic sensitizer. Photographic laser reproduction. Reproduction of color in monochrome. Structure of the image. Negative materials. Photographic exposure and exposure meters. Negative processing. Improvement of the negative. Printing processes. Principles of color-color photography. Three-color separation negatives. Selective printing processes. Forces and mechanical processes. Multistep processes. Accuracy of color reproduction. Subject index. Aves.

Notes. (1493) A standard text and reference book on the technical aspects of photography. This volume has been very substantially revised and the new edition contains many new developments in materials and processes, new writings of foremost specialists in addition to the author here have been included. The treatment of most topics is concise but exhaustive. Literature references are included for some topics. The book is addressed to scientists, including but not limited to those who are preparing for research in photography and allied fields such as photolithography. Little space is devoted to the everyday practice of photography; however, it contains much interesting material for the amateur. It is not a book on the commercial photography and business associated with it, nor does it know much about the scientific and technical basis of the craft.

NEBLETTE CARROLL BERNARD AND H. N.
TODD

Elementary photographic sensitometry
Rochester N Y Rochester Institute of
Technology 1950 100 p. illus. 24 cm. \$3.00
1542

Contents. What is *astrometry*? Exposure of the material. *Section*. Development of the material. *Threshold* *aperture*. *Density* *specific* *transmission*. The measurement of density. The *D log E* curve. The developing factor or *gamma*. The *time-density* curve. *Filter* *factor*. The *time log* curve. *H & D* *aperture*. *Western* *aperture*. *Speed* *based* *upon* the exposure for density of 0.10 plus log *aperture*. *American* *Association* *speed*. *Latitude* *and* *contrast* *aperture*. *Effect* of the developer and development on the *D log E* curve. The measurement of spectral sensitivity. The measurement of *contrast*. *Time-sensitization*. *Index*.

Abstract: This reproduction discusses the manner that it has developed in the past century. The study of the subject, this book is relevant for those with interest in the scientific basis of photography. It is presented the scientific fundamentals, methods of measurement, and standards pertinent to the "quantitative measurement of the response of photographic materials to radiant energy. It was developed for use in courses given by the Department of Photographic Technology of the Rochester Institute of Technology and is suitable for use as a text or as a reference for persons studying the subject by correspondence. Some bibliographic references are included, but the bibliography is not extensive.

NEWHALL, BRADMONT

The history of photography from 1839 to the present day New York The Museum of Modern Art, 1949 256 p. 27 cm. \$5 00. 2543

Contents: The elusive image. The mirror with memory. Prints from paper. Portraits for the million. Pictorial effect. The technical villain. The conquest of action. Photography as an art. The straight approach. Documentary. Lamented vision. Experiments in abstraction. For the printed page. In color. Sources of quotations. Selected bibliography. Index.

Note: In 1937 the Museum of Modern Art, New York, organized an exhibition of photographs covering the period 1839 to 1917. The present volume is an expansion and elaboration of the catalogue which was prepared for the exhibition. As might be expected, emphasis is placed on the artistic aspects of the subject, but attention is also given to the evolution of apparatus and technique. Numerous reproductions of photographs taken with various types of apparatus by famous photographers are included.

SIMMONS ALBERT DIXON

Photography for sportsmen. New York. D
Van Nostrand Company Inc., 1951 172 p.
illus. 24 cm. (A Van Nostrand sporting book.
edited and designed by Eugene V. Connett)
\$3.00 2544

Contents: Economics. Field equipment. Exploring the world of color. Through the low Rader. Getting close to nature. Flat Top. Feathers. Seeing the unseen through slow motion. Riding. Jump. Gunner. Story shots for all.

Notes: A book on still and motion picture photography is the outdoors especially intended for apartment who take their cameras on hunting and fishing trips. The author has evolved technical language of photography where possible and has produced practical manual illustrated with many of his own stilling and motion pictures.

SIPLEY LOUIS WALTON

A half century of color New York The
Macmillan Company 1951 216 p. illus. (part
col d) 26 cm. \$3.00. 2545

Contents: There is always **lockdown**. The new century never served. Post-war innovations. Color grows during the depression. The camera and the press. The eye-catcher takes over. Color since and control systems. The half century bloom.

Note in this lavishly illustrated book the many steps in the development of color photography and color reproduction in the graphic arts are described by the Director of the American Museum of Natural History. An especially useful test it is supplemented by many photographs of reproductions that represent high points in the history of these graphic arts. The illustrations, rather than ascribed at considerable cost and effort and probably will never be duplicated again in book form. Much of the historical background appears to have been derived at least from some less current sources have spanned the developments that are described. Although the book has considerable historical value, there are no accurate references and no index.

SOCIETY OF MOTION PICTURE AND TELEVISION ENGINEERS

Principles of color sensitometry. A report of the Color Sensitometry Sub-committee H. E. Bragg and others. C. F. J. Overhage, editor. New York: Society of Motion Picture and Television Engineers. 1950. 72 p. illus. 23 cm. Paper. 2546

Contents: Introduction. Semimetric spaces. The procedure of semimetric tests. Quantitative evaluation of the image. Densimetric design principles. Transformations between images and analytical densities. Interpretation of semimetric results.

Radical aspects of color constitution. Reference.

Note: "Much of color constitution is built on basic principles familiar in constitution of black-and-white materials. Some principles are new. It is the object of this report to outline these principles and to describe the methods and instruments of color constitution in order to give the workers in the field of color constitution a comprehensive view of the present state of the picture photography constitution. The treatment is not detailed, but the coverage is intended to be comprehensive.

FOOD TECHNOLOGY

ADVANCES IN FOOD RESEARCH. Volume III. Edited by E. M. Arak and George F. Stewart. New York: Academic Press, Inc., 1951 518 p. illus. 24 cm. \$9.50. 2547

Contents: Enzyme-catalyzed oxidative browning of fruit products, by M. A. Joslyn and J. D. Paothas. Physical and chemical aspects of the production, storage, and safety of dry milk products, by E. T. Coother and others. Electromagnetic radiation fermentation and their applications in food technology, by R. E. Parcer and R. A. Goldbach. The physicochemical evaluation of milk products, by A. J. Lohman and others. Bacteriologic inhibition of food industry problems, by W. R. Kinsler and E. McNeil. Reactions between sugars and nitrogenous compounds and their relationship to certain food problems, by J. P. Donnelly and W. W. Frazier. Chemical and microbial studies on sliced canned meats, by J. A. Ulrich and H. G. Malvern. Certain aspects of bacterial corrosion in the pipe containers, by R. E. Hertzell. Rationale for studies of consumer food preferences, by R. L. D. Munn. Control of microorganisms causing spoilage in fruit and vegetable products, by M. van Schieffelen. Author Index. Subject Index.

Notes (2271) As in the earlier volumes of the series, original monographic papers on topics of current interest to food scientists, food chemists, etc., are presented. Each paper is followed by a summary of specific topics, accompanied by an extensive bibliography of the pertinent literature. The author index includes the names of authors of cited materials. The paper, written on a professional level, are intended for scientists and technologists in the food industry and in laboratories where food research is carried on.

AMERICAN CHEMICAL SOCIETY

Analytical methods in the food industry: a collection of the papers presented at the Symposium on Analytical Methods in the Food Industry held by the Divisions of Analytical Chemistry and Agricultural and Food Chemistry of the American Chemical Society at the 115th national meeting in San Francisco, March 28 to April 1, 1949 Washington: D. C. American Chemical Society 1950. 73 p. illus. 24 cm. (American Chemical Society Advances in chemistry series edited by the staff of Industrial and engineering chemistry No. three) Paper \$1.50. 2548

Contents: Introduction, by J. E. Mitchell. Measurement of color changes in foods, by E. J. Kinsman. Determination of amino acids, by M. S. Dunn. Quality control methods to insure food production and distribution, by R. Campbell. Determination of water in some dehydrated foods, by R. Malvern. Measurement of oxidative susceptibility, by R. W. Buehler. Measurement of pH in foods by microanalytical methods, by D. H. Tilden. Some aspects of control methods in the canned food industry, by G. H. Reeder and W. C. Blanton.

Notes: A collection of original papers addressed to graduate chemists. All are accompanied by bibliographies. The bibliography included with Dunn's "Determination of amino acids" runs to 217 references.

AMERINE, MAYNARD ANDREW AND M. A. JOSLYN

Table wines, the technology of their production in California. Berkeley and Los Angeles University of California Press 1951 397 p. illus. 24 cm. \$4.50. 2549

Contents: Introduction. Wine and grapes. Trade in the industry. The winery and its equipment. Design and construction. Equipment. Fermentation. Recommended procedures for making wines: From grapes to new wine. Clarifying and aging. Dry red wine. Dry pink wine. Dry white wine. Sweet table wine. Sparkling and carbonated wines. Preparing wines for market. Finishing operations. Testing and analyzing. Wine adulteration. Winery by-products. Technological principles: Composition of grapes. Composition of table wines. Alcoholic fermentation. Propagation of fermentation. Appendix. Trade and reference tables. General references and citations. Index. List of illustrations. List of tables.

Notes: An inclusive survey of good practices. It is addressed particularly to managers, chemists, and other technicians associated with the table wine industry in the state of California. However, most of the information presented is applicable also in vineries in other regions. Typical equipment is described and illustrated, but this phase of the subject is not covered comprehensively. The text is supplemented by 46 tables of reference data and 27-page international bibliography.

AMERINE, MAYNARD ANDREW, AND LOUISE B. WHEELER

A check list of books and pamphlets on grapes and wine and related subjects, 1938-1948. Berkeley and Los Angeles University of California Press, 1951 240 p. 24 cm. \$5.00. 2550

Contents: Check list. Abbreviations. Subject index. Index of authors, editors, and translators and alphabetically listed. Index of country or state of publication. Bibliography.

Notes: A comprehensive bibliography within the decade covered. It is international in scope and includes both books, pamphlets, and government publications but not articles in journals, except in instances where an article was the latest summary. The main arrangement is alphabetized by name of author.

ASSOCIATION OF FOOD INDUSTRY SANITARIANS INC.

Sanitation for the food-preservation industries. Prepared by the Association of Food Industry Sanitarians, Inc. in cooperation with the National Cannery Association. Editorial committee: Stephen M. Anderson and others. New York: McGraw-Hill Book Company, Inc. 1952 284 p. illus. 24 cm. (McGraw-Hill series in food technology editor Frank K. Lawler) \$5.50. 2551

Contents: Organization of the sanitation program. Inspection techniques. Housekeeping. Animal and bird pests. Insect pests. Sanitary design and construction. Water supply. Construction and maintenance of buildings and equipment. Cleaning. Chlorination. Employee facilities and industrial hygiene. Feeding and housing of employees. Waste treatment and disposal. Laboratory aids. Glossary of terms. Index.

Notes: An officially sponsored manual which makes available practical information on efficient methods of establishing and maintaining optimum conditions of cleanliness at plants devoted to the canning, freezing, and dehydrating of foods. Organized in methodical units and sections to simplify reference. It can be supplemented by courses with secondary school education. On the other hand, the scope is sufficiently broad to make it useful to management personnel as well as to workers. Literature references are included.

AVERY, ARTHUR C.

Fish processing handbook for the Philippines. Drawings by Pio Medel. Washington,

D. C. Government Printing Office, 1950 149
p. illus. 23 cm. (United States. Department
of the Interior. Fish and Wildlife Service. Re-
search report 26) Paper \$0.50 2552

Contents: Introduction, Handling fresh fish, Freezing, Salting, Drying, Smoking, Miscellaneous preserving methods, Canning. Names cataloged of species that are seldom canned. Spoilage of fish and fish products. Reference data for fish products. Bibliography.

This handbook for fish processing was prepared for use in the Philippines, where fish is second only to rice as the most important food. It contains valuable information for both home and commercial processors. It covers the handling of fresh fish, the various methods of preserving fish, and the spoilage of fish and fish products. It gives step-by-step descriptions of Philippine fish preserving methods, with suggestions on improving them and of methods used in other parts of the world. Rich laws have been adapted for Philippine use by Philippine Fisheries Program of the Fish and Wildlife Service. Each of the illustrations in the handbook were taken from photographs submitted by the Fisheries Bureau of Ichthyology. The United States tables of meat data for fish processors and drawings of common species of Philippine fish.

FRANDSEN JULIUS HERMAN, AND D HORACE NELSON

Ice creams and other frozen desserts. Am
herst, Mass. J H. Frandsen 1950 318 p.
Illus. 24 cm. \$5.25 2553

Consider the history, development, and importance of the ice cream industry. Find out why the ice cream business is one of the most profitable, and how it has grown. Learn about the different types of ice cream, sherberts, and frozen custards, and the proper use of cream, sugar, and other ingredients. Discover the science of ice cream, and the importance of the ice cream industry. Learn about the different types of ice cream, sherberts, and frozen custards, and the proper use of cream, sugar, and other ingredients. Discover the science of ice cream, and the importance of the ice cream industry. Learn about the different types of ice cream, sherberts, and frozen custards, and the proper use of cream, sugar, and other ingredients. Discover the science of ice cream, and the importance of the ice cream industry.

Water. A manual of the commercial manufacture of ice cream particularly as it is done in the U. S. and A. Formulas are included for variety of flavors of standard ice creams and also for novelty types such as suspended, trail salad, sherbet, and water ice. Also there are formulas for syrups and toppings used in making the ice cream. Flavors and details that are sold at ice cream fountains. Some fountain recipes are included because many manufacturers of ice cream markets such retail outlets. The authors are members of the faculty of the University of Massachusetts.

HUGHES Ostr.

Introductory foods. Revised edition. New
York The Macmillan Company 1949 575 p
illus. 22 cm. \$4.50 255a

Contents: Introduction. Fruits and fruit preparation. Vegetables and vegetable preparation. Milk and milk products other than butter and ice cream. Eggs and egg cooking. Meats and meat cooking. Poultry. Fish. Carbohydrates and carbohydrate cooking. Beverages. Yats and oils. Salads and salad dressings. Gelatin. Freezing and frozen desserts. Batters and doughs. Food preservation. Meal planning. Meal service. Appendixes. Index.

Notes. (4562) A separate book, though very concise, often by collection of very curious cases of foods are described with emphasis on their nutritive value. Books feed preparation and preservation are also included. Much information that is generally useful in studying and preparing food is included. The first edition, issued in 1940, is the edition has been much revised and sections such as that on food preservation have been considerably expanded.

HUNZIKER, OTTO FREDERICK

Condensed milk and milk powder Prepared for factory school and laboratory Seventh edition, completely revised. La Grange, Illinois O F Hunziker 1949 630 p. illus. 24 cm. \$7.00

Comments (abridged): Chemical composition and reaction of milk. Physical properties of milk. The milk economy. Thermodynamics of milk condensing. Description of the vacuum pan. Range requirements for fermenting and condensing. Factory sanitation. Quality of milk supply and its control. Sterilized condensed milk. Distribution, intake and standardization. Condensing the milk. Sterilized condensed skim milk—condensed by Fickler's. Evaporated milk. Inspection, standardizing and fermenting. Irradiation. Fermentation, homogenization. Caching, standardizing, canning. Stability and shelf life. Viscosity, color, flavor and nutritive value. Heat-treated, sterilized condensed milk. Conventional buttermilk, sour skim milk, sterilized sweet thick and sweet cream. Composition and nutritive value of condensed milk. Manufacture of condensed milk. The acid milk industry. Milk drying systems. Thermodynamic and engineering aspects. Manufacture of dried whole milk. Manufacture of dried buttermilk. Manufacture of dried whey. Manufacture of dried skim milk—dried for cream—dehydration processes. Condensed milk. Field composition, properties of dried milk. Keeping qualities of dried milk. Vitamins in milk and milk products. Manufacture of milk powders of commerce. Factory tests and analyses. Index.

Note: (5001a) As in previous editions, this volume presents the latest available information on apparatus and processes that will be of interest to advanced students, research workers, and plant managers concerned with large-scale commercial dairy operations. Numerous illustrations of equipment are again included and the statistical data and official standards have been revised through 1944. The material is based on the author's own experience and on a review of the literature of the subject, and in this revision some 150,000 references in world literature are included.

JACOBS, MORRIS BORIS

The chemical analysis of foods and food products. Second edition. New York: D. Van Nostrand Company Inc. 1951. 902 p. Ills. 23 cm. \$9.00. 2556

Contents: General methods. Physical chemical methods. Coloring matters in foods. Chemical preservatives in foods. Metals in foods. Chemical food poisoning. Alkalis and cranes. Milk products. Oils and fats. Sugar foods and confectionery. Grains, cereals, starch, other polysaccharides, flour and bread. Fats, milk, and honey. Vegetable products. Spices, flavors, and condiments. Monosaccharide beverages and allied products. Meats, meat products, fish, and eggs. Ferments. Inorganic determinations. Flavors and quality measurement. Fish and decomposition in foods. Food tests. Appendix. Subject Index.

and discussion of the same. First the author discusses the work of the last 150 years (1454) on the subject, then the author turns to the last 10 years, in which he has had extensive contact with the workers. In this part, he discusses the food chemists, food technologists, public health workers, and others concerned with the policy, composition, processing, and dietary value of food products. It contains precise descriptions of commercial food products and provides detailed procedures for their analysis. The general arrangement of the material on food has been retained, but the scope has been broadened to include all food problems in technology. Chapters have been added on the chemical and physical properties, flavor and quality measurement, and food and decomposition. Chapters have been added on the color of meat, milk products, and various food preservatives. The book is well written, and the illustrations have been brought to date.

JACOBS MORRIS BORN editor

The chemistry and technology of food and food products. Second completely revised and augmented edition, prepared by a group of specialists under the editorship of Morris B. Jacobs. New York: Interscience Publishers, Inc. 1951. 3 v. 24 cm. Vol. 1, \$12.00 Vol. 2, \$15.00 Vol. 3, \$15.00. 2557

[illegible]

Starchy poultry and eggs, by M. K. Pennington. Cereal grains, by W. F. Golden. Edible fats and oils, by C. K. McMichael and A. K. Bailey. Baking and bakery products, by W. H. Calcraft. Vegetables and undergrowth, by F. A. Lee. Fruits and nuts, by F. A. Lee. Confectionery and sugar foods, by E. F. Duggling. Confectionery and cocoa products, by M. E. Schenck. Coffee and tea, by W. H. Olson and S. C. Prescott. Flavors, spices, condiments, and essential oils—Part I. Flavors, spices, and condiments, by L. Worrell. Part II. Essential oils, by M. E. Schenck. Abridged index to volume II. Volume III. Part I. Preservation: The dehydration of foods, by E. M. Mack and G. Mackintosh. Food preservation by temperature control, by M. K. Pennington and D. K. Tinsley. Preservation of food by low-moisture sealed containers, by O. B. Williams. Food preservation by use of microorganisms, by F. W. Fialkow. Chemical preservation, by M. E. Schenck. Packaging, by C. W. Ryan. Part II. Production: Technology of cereal grains, by W. F. Golden. The production of bread and bakery products, by W. H. Calcraft. Eggs and eggs, by G. F. Mack. Confectionery and cocoa products, by M. E. Schenck. The manufacture of chewing gum, by M. E. Schenck. Fresh fruits, jams, jellies, and preserves, by M. A. Mordert and J. L. R. John. Milk and milk products, by F. Corneil. Meat and meat products, by W. M. Ormiston. Fish, shellfish and crustaceans (part II), by M. E. Schenck. Oils, fats, and related products, by C. K. McMichael and A. K. Bailey. Karyozones in food processing, by M. E. Schenck. Commercial microbiology, by M. E. Schenck. Alcoholic beverages, by F. W. Fialkow. Industrial yeasts, by F. W. Fialkow and J. L. R. John. Cereals, by M. E. Schenck. Index to volume III.

Note: (445) An encyclopedic work of interest not only to chemists and other technical specialists associated with the food processing industries, but also to specialists in nutrition, public health, etc. Each of the chapters is essentially a monographic survey and is accompanied by extensive literature references. The chapters on instruments in food plants, edible fats and oils, chewing gum, and soybeans in food processing have been added in the present edition. The chapters carried over from the previous edition have been very extensively revised and in some cases are signed with the names of new contributors.

JARVIS NORMAN DONALD

Curing of fishery products. Washington, D. C. Government Printing Office, 1950. 271 p. illus. 23 cm. (United States. Department of the Interior. Fish and Wildlife Service. Research report 18) Paper \$0.60. 2558

Contents: Importance of fish curing in the history of the United States. Statistical review of the fish curing industry. Preservative action in fish curing. Air dried fishery products. Dehydration of fish. Principles of fish salting. Dry salting out. Dry salt out—foreign cure. Smuggling in dry salt out and other cured fish. Miscellaneous dry salt fish. Dry salting fish in water solution. Miscellaneous brine-pickled fish. Smoking salting. Salmons salting. Spiced and pickled fish. Cured and other fish products. Smoking fish. Herby smoking. Fishes smoking. Smoked haddock and other groundfish. Miscellaneous fish smoking. Delicacies products. Literature cited. Index.

Note: This report covers the techniques of all methods of fish preservation except refrigeration and canning. In it are described the methods employed of curing certain types of fish in England, Scotland, and Norway in addition to current American methods. It is published as a handbook and guide to process and trace construction or concerned with the fish-curing industry. Interest in the subject stems from the fact that curing does not require the equipment or capital needed for smoking or freezing.

JENKIN LLOYD BRYAN

Meat and meat foods processing and preservation from meat plant to consumer. New York: The Ronald Press Company, 1949. 218 p. illus. 22 cm. \$3.75. 2559

Contents: The rise of applied science in the preservation of meat. Processing of fresh meats. Features of fresh meats and former storage. Curing of meats. Effects of bacterial action. Special microbiological problems. Home-curing and smoking processes. Production of bacon. Preservation and curing of beef. Preparation and production of semi-ready meats (sausage). Processing and cure of canned meats. Storage and handling of meats by retailers and consumers. Meat curing and meat in the past. Bacterial food poisoning. Appendix—Bibliographical notes on the use of meat as food. Bibliography. Historical references. Technological references. Index.

Note: The many technical processes which are employed in preparing and preserving meat from the time the animals are slaughtered until the edible products reach the consumer's table are reviewed in this book, which is suitable for use as a textbook or

reference book by such groups as home economics students, public health workers and persons in the retail food business. The bacteriological aspects are emphasized, but there is also much information on other aspects such as the role of meat in the diet. The author is Chief Bacteriologist for Swift and Co.

JOSLYN, MAYNARD ALEXANDER

Methods in food analysis applied to plant products. New York: Academic Press Inc., 1950. 525 p. illus. 23 cm. \$8.50. 2560

Contents: (Abridged) Statistical analysis, errors, expression of results. Sampling. Moisture content and total solids. Ash content and ashing procedures. Extraction methods and separation processes. Determinative methods. Refractometric methods. Potentiometry and saccharimetry. Colorimetry and spectrophotometry. Potentiometric and related methods. pH and buffer capacity. Viscometry and other physical methods. Acidimetry. Alkalimetry. Carbohydrates. Fats and pesticides. Tannins. Organic nitrogenous compounds. Index.

Note: A work in which basic physical and chemical principles and techniques, rather than specific laboratory procedures, are discussed. Also the author has assumed that his readers will be concerned more with the estimation and control of the quality of food products than with the detection of adulteration. This book is addressed to application and graduate college students who understand the principles and techniques of qualitative and quantitative analysis. It is written in the style of a monograph with frequent references from the text to extensive bibliographies. For chemists already at work in the field, especially those concerned with microbiology, it should prove a useful survey of applicable techniques and guide to the literature.

MARKLEY KLABE STEPHEN, editor

Soybeans and soybean products. New York: Interscience Publishers, Inc., 1951. 1145 p. 2 v. illus. 24 cm. (Fats and oils: a series of monographs on the chemistry and technology of fats, oils, and related products, Editorial board A. E. Bailey and others) \$11.00 per volume. 2561

Contents: Vol. I. Production. History of soybean production, by W. J. Moore. World soybean production and trade, by E. L. Berlin. Structure and composition. Structure and genetic characteristics of the soybean, by L. F. Williams. Chemical composition of soybeans seed, by W. J. Moore. Chemical composition of soybean oil, by R. F. Daubert. Chemical characteristics of soybean oil, by S. T. Bauer. Physical properties of soybean oil, by M. K. Johnson. Proteins and other nitrogenous constituents, by E. J. Carls. Other constituents of the soybean, by R. F. Daubert. Methods known in soybean products, by H. H. Marshall. Processing: Grinding and evaluation of soybeans and derived products, by K. Freyer. Heating and storage of soybeans, by L. E. Hahn. Biological processes in stored soybeans, by M. Miller. Mechanical processing of soybeans, by L. F. Langdon. Vol. II. Soybean extraction processes, by L. F. Langdon. Utilization of soybean products. Production and utilization of lecithin, by J. Stanley. Processing of edible soybean oil, by J. W. Bowman and others. Nutritional value of soybeans and soybean products, by H. J. Daniel, Jr. Edible soybean oil products, by H. C. Mack and K. F. Matti. Soybean oil by-products, by R. W. Hansen and M. D. Kester. Nonedible soybean oil products, by T. F. Beasley. Soybeans oil meal for livestock and poultry, by J. W. Hayward. Soybean protein food products, by R. E. Stewart. Soybean protein industrial products, by R. E. Stewart. Other soybean products, by J. M. Smith and F. O. Van Deyne. Author index, volume I. Subject index, volume I+II.

Note: Each of the 25 monographs in this comprehensive work has been prepared by an expert, and is well documented with literature references. Although the levels of the monographs vary the work as a whole is technical and is designed for professional workers in fields where knowledge of soybean processing or soybean products is essential.

MILLER, ALBERT RAUCH

Meat hygiene. Philadelphia: Lea & Febiger, 1951. 420 p. illus. 24 cm. \$7.50. 2562

Contents: History. Elements of meat hygiene. Antiseptic inspection. Post-mortem inspection. Trichinosis. Physical and chemical characteristics of meat and the principal agents. Facilities related to sanitation in plant operation. Facilities for inspection. Materials added to meats. Preparation of meat and meat food products. Meat grading. Adulteration and misrepresentation. Derivative changes

TRISLER, DONALD KITKLEY, AND JAMES MCWY LEMON

Marine products of commerce, their acquisition, handling, biological aspects and the science and technology of their preparation and preservation. In collaboration with A. E. Alexander and others. Second edition revised and enlarged. New York: Reinhold Publishing Corporation, 1951. 782 p. illus. 24 cm. \$18.00. 2568

Contents (abridged): The ocean, its potentialities and products. Salt from sea water. Magnesium, bromine and other products from sea water. The real steps of economic importance. The herring industry. The prawn and shrimp industry. Economic importance of the world's fisheries. American fishing gear and fishery methods. Fish and shellfish as food. Refrigeration and freezing of fish. The principles of fish curing. Curing of fish and fish products. Fish meal and oil. Fish bones etc. Fish glue and isinglass. Manufacture of leather from marine sources. The oyster industry of the world. The clam industry of the United States. The American shrimp industry. The lobster fishery. Marine turtles and tortoises. The halibut industry. Shell fisheries. Commercial species. Index.

Note: A cyclopedic reference book that is unique in its field. The first edition was published in 1921. The viewpoint and scope of the present edition are essentially the same as the first but the contents of the book are new. Under chapter titles, such as are given above, both economic and technical information are presented. The chapters are supplemented by bibliographies that include the periodical and patent literature.

VALAER, PETER

Wines of the world. New York: Abelard Press, 1950. 576 p. 22 cm. \$6.50. 2569

Contents (abridged): Grapes for the world's winemaking. Wine types. Heavy wine. Port wine. Madeira wine. Champagne and other sparkling wines. Vin de Graves. Rhine wine and other heavy wines. Raisin wine and related. Apple wine and apple juice. Heavy wine. Wine production in the United States. California's wine area. Winemaking in New York State. Wines of other lands. Acids and their significance in wine. Use of pure wine cultures, sulfur dioxide, and temperature control in winemaking. Color treatment of wine. Grape concentrates and other concentrates used for winemaking. Methods of analysis of wine. Selective bibliography of wine. Analysis of wine. Index.

Note: Although this is a general book on wine, there is considerable emphasis on the technology of winemaking. The inclusion of technical aspects is obvious from the titles of some of the chapters, but even in titles such as "Wines of other lands" there is some discussion of technical matters. The book is of interest to wine consumers and also to persons associated with the wine trade. The bibliography was compiled for the Wine Institute, and it includes both books and articles. In the final chapter detailed chemical analysis of wine ranges of wines are presented. The author has been associated with the United States Bureau of Internal Revenue as specialist in wine for many years.

VAN HOOK, ANDREW

Sugar its production, technology, and uses. New York: The Ronald Press Company, 1949. 155 p. illus. 22 cm. (A volume of the Humanizing science series edited by Jacques Cattell) \$3.00. 2570

Contents: Sugar and the sugar. Production—cane. Production—beet. Commercial and trade aspects. By-products: recent and anticipated developments. History. Index.

Note: This book brings together in readable form, with suitable illustrations, the essential facts about the growing, processing, and refining of sugar, the scientific basis of its technology. It was both present and potential, and brief history of sugar from ancient times to the present day. It is especially useful for those outside the sugar industry who want to read well-organized picture of the sugar industry and its background.

VON LOESECKE HARRY WILLARD

Bananas chemistry physiology, technology Second revised edition. New York: Inter science Publishers, Inc., 1950. 189 p. illus. (part col'd) 22 cm. (Economic crops. A series of monographs on the chemistry, physiology and technology of food and food products, Z. I. Kertesz, editor Vol. 1) \$5.00. 2571

Contents: History and growth of the trade. Structure and development. Commercial storage and ripening methods. Chemical changes during ripening. Transportation of bananas. Banana products. Nutritive value in health and disease. Diseases and insect pests of banana. World banana production and trade. Author index. Subject index.

Note: An inclusive survey of economic, horticultural, and nutritional information on one of the world's most important fruits. The treatment of most topics is brief; for instance, there are only three pages on insect pests. On the other hand, abundant literature references are given, there being nearly 400 such in the book. Topics related to marketing, for example ripening methods, are treated more fully but even in these parts only the main facts are outlined.

VON LOESECKE, HARRY WILLARD

Outlines of food technology Second edition. New York: Reinhold Publishing Corporation, 1949. 585 p. illus. 24 cm. \$7.50. 2572

Contents: The tin can and the glass container. Fruits and their products. Preservation of vegetables. Dairy products. Meat, meat products and poultry. Fish and shellfish. Cereals and their products. Edible fats and oils. Sugars and starches. Nut. Spices, rubbers, essential oils and extracts. Beverages. Confectionery. Jams, jellies and preserves. Canned fruits. Storage and marketing of fruits and vegetables. Preservation of foods by freezing, drying.

Note: (4146) As this title implies, this book is a general survey of food products and present-day food processing. It is not, however, a comprehensive book as stated to such readers as college students, grocers, and workers in the food-processing industries. It is suitable also as a reference book in libraries. In its new edition it is 80 pages longer. The new and revised material appears throughout and relates both to food products not mentioned in the first edition and to new developments in processing. Such the footnote references to related literature and the helpful lists of suggested readings have been revised.

ZIEGLER, PERCIVAL THOMAS

The meat we eat. Third edition. Danville, Illinois: The Interstate, 1952. 511 p. illus. 24 cm. \$3.50. 2573

Contents (abridged): Part one. Federal and state meat inspection. Hot slaughter. Cattle slaughter. Lamb slaughter. Veal and calf slaughter. Poultry house by-products. The preservation, smoking and curing of meats. Cold storage and refrigerated food lockers. Dressing poultry and game. Part two. Meat as food. Federal meat grading. Cattle and veal and mutton. The beef carcass and its cuts. The veal carcass and its cuts. The sheep carcass. Meat judging. Meat identification. Appendix: Organizations that promote meat. Index.

Note: A practical manual in which most of the space is given to descriptions of slaughtering methods suitable to large and small slaughterhouses and to the preparation of meat for use as known food. Such techniques as the slaughtering of hogs and the cutting up of the carcass are described very specifically. Related matters, such as the value of meat as food and governmental grading and inspection of meat, are discussed more briefly. There are more than 240 figures, many of which are reproductions of photographs of slaughtering and cutting-up operations. Selected literature references are included.

MISCELLANEOUS TECHNOLOGY

GENERAL

BARR, W E, AND VICTOR J ANHORN

Scientific and industrial glass blowing and laboratory techniques. Pittsburgh Instru-
ments Publishing Company 1949 388 p Il-
lus. 21 cm. \$6 00 2574

Contents: Introduction Elementary glass blowing tools. The fabri-
cation of multiple glass rods. Tube bends. Spirals. Glass sheet
forming devices. Ground surfaces for glass apparatus. Glass to metal
seals. Production of high vacuum Vacuum gauges. High vacuum
techniques in equipment production. Gas absorption apparatus for
measuring surface areas. The modified Manco-Wright molecular
weight apparatus. Interferential colorimeters. Design and construc-
tion of distillation equipment. Index.

Note: This is a manual of glass-blowing techniques and related
information which is written on a professional level. Although it
contains information which is of value to students, it is intended
chiefly for research workers who must design and sometimes build
glass apparatus in the course of their laboratory experiments. The
text is concise and clear, and is supplemented by over 200 illustra-
tions of glass-blowing tools, operations and, also, advanced ap-
paratus such as mercury diffusion pumps. Many of the chapters include
lengthy lists of references to related literature.

DELMONTE, JOHN

Plastics molding. New York John Wiley &
Sons, Inc., 1952 493 p Illus. 24 cm. \$9 00
2575

Contents: Introduction to plastics molding materials. Hydraulic
pumps for molding process. Mechanical pressure systems. Hydraulic
actuators and pistons. Valves for the molding plant. Distribu-
tion of gases and fluids. Heat for the molding of plastics. Material
preparatory equipment. Compression and transfer molding equip-
ment. Design of compression and transfer molds. Injection molding
machines. Design features of injection molds. Extrusion equipment
for plastics materials. Finishing accessories for the plastics molding
plant. Instrumentation for the molding plant. Plant layout. Author
Index. Subject Index.

Note: A thorough look at the plant and equipment aspects of
the plastics molding industry. In most of the chapters, particular
processes are described concisely, then the machines and equipment
for carrying out the process are discussed. However, the emphasis
is on principles and uses and the author does not attempt to de-
scribe all available machines. Such topics as molds are discussed
from the engineering and design viewpoints. The book is of in-
terest to trained engineers concerned either with the organization
of plastics molding plants or with their management.

HODGKIN MARGARET T

Change and history a study of the dated
distributions of technological innovations in
England. New York Wenner-Gren Founda-
tion for Anthropological Research, Inc., 1952
324 p Illus. 25 cm. \$4.50 (Viking Fund pub-
lications in anthropology No 18) 2576

Contents: The problem of change in the social sciences. The his-
torical investigation of dated innovations. Dated distributions of
technological innovations. On innovation. Distribution and processes.
Technological innovations and migrations. Appendix.

Note: This book is based on a study carried out to find the
answers to such questions as "where during the long British
past have technological changes taken place? Among what groups,

in what communities, at what sites and at what dates have the
fully developed technological initiatives? What geographical differences
in the acceptance of new handicrafts are to be observed between
historic regions and their prehistoric forebears, or among tribes at
different historical periods?" About half of the space is devoted to
tabulated information on the introduction of crafts such as woven
cloth making, copper smelting, and oil engine making into various
shires and parishes. The period covered is approximately 1000-1800.
Literature references are given. The work is of interest both to the
scholarly student of the history of technology and to the student
of sociology.

**SEAMAN ROBERT G, AND ARTHUR M MEX-
RILL editors**

Machinery and equipment for rubber and
plastics. Volume 2. Primary machinery and
equipment. New York India Rubber World,
1952 804 p. Illus. 24 cm. \$15.00 2577

Contents (abridged): Mills. Mill accessories. Mixers. Calenders and
accessories. Extruders. Extruder accessories. Presses, compressors.
Press accessories. Presses, injection. Molds and mold accessories. Web
casting and handling equipment. Presses, rammed. Roller dryers, and
coolers. The mill and latex machinery. Hoses and belting machinery. Pre-
war machinery. Wire and cable machinery. Saws and sand machinery.
Latex machinery. Special plastics machinery. Appendix. Index.

Note: The first volume published of practical two-volume work.
It contains signed articles in which kinds of machines are discussed
from the standpoint of their characteristics and uses; specimens
in the descriptions of the machines offered by various manufacturers in the
United States of America are given, and few advertisements in-
cluded. In this first volume there are 24 of the signed general articles
bearing such titles as "Extrusion and applications of extrusion," and
"Hand chemistry planting of plastics and rubber seeds."

SIMONDS HERBERT RUMSEY AND OTHERS

Extrusion of plastics rubber and metals.
By Herbert R. Simonds, Archib J Welth and
William Schack. New York Reinhold Pub-
lishing Corporation 1952 454 p. Illus. 24 cm.
\$10.00. 2578

Contents (abridged): Part I, Extrusion of plastics. The plastics
extrusion industry. Common extruders. Plastic materials for extru-
sion. Equipment for plastics extrusion. Theoretical aspects. Characteris-
tics of compounds. Design and use of dies. Instrumentation. Manu-
facture of compounds. Design and use of dies. Plastic coatings of
Aluminum. Shapes and tubes. Sheet and film. Plastic coatings of
wire and other products. Part II, Extrusion of rubber, metal and
intermediate materials. Appendix. Glossary. Manufacturers of ex-
truded products. Manufacturers of extrusion equipment. Tables and
conversion factors. General Index.

Note: A practical survey of extrudable materials and extrusion
processes. It is devoted mainly to the extrusion of synthetic plastic
materials, but other materials are included as indicated in the title.
It is intended for production engineers and others with practical
interests in the subject. There are many tables of engineering prop-
erties and the numerous illustrations include photographs of extrusion equip-
ment and operations. Possibly because the book is based primarily on
survey of current industrial practices, literature references have
been omitted.

RAILROAD OPERATION

BRUCE ALFRED W

The steam locomotive in America its de-
velopment in the twentieth century New

York W W Norton & Company, Inc., 1952
443 p. illus. 24 cm. \$7 50. 2579

Contents: Railroads, railroads, and locomotives. Early development of the steam locomotive. The steam locomotive industry. General development of the steam locomotive, 1901 to 1950. The development of power transmission, 1901 to 1950. Development of steam locomotives. Progressive development of individual types of steam locomotives. Development of special-service locomotives. Growth and development of the steam locomotive. The competitors of the steam locomotive. The future design of the steam locomotive. Railroad, index.

Note: Although the sub-title of this book indicates locomotion is due to the present century the earlier development of the steam locomotive from its beginnings to the close of the nineteenth century is adequately treated. Beginning with 1900, the author gives a detailed account. His chapter on the development of locomotives is over 100 pages long; and in it he has described fully the evolution of such parts of the steam locomotive as the boiler, mechanical motion, motion, engine, valve, driving wheels, etc. Inserted pages near the center of the volume contain reproductions of photographs of 144 typical locomotives, and legends under the photographs supply technical details. There is no bibliography. The book is based primarily on the author's life-long experience in the engineering of

McGOWAN GEORGE F

Diesel-electric locomotive handbook—electrical equipment. New York Simmons-Boardman Publishing Corporation, 1951 290 p. illus. 21 cm. \$4 95 2580

Contents: The electric transmission. Electrical fundamentals. The electric generator. The traction motor. Electric auxiliary power, motor, motor, dynamic braking, batteries, converters, etc. Electric motor drives. Electrical equipment. Also-General Electric electric equipment. Lima-Hamilton locomotive electrical equipment. Baldwin Locomotive electrical equipment. Fairbanks, Morse electrical equipment, index.

— Diesel-electric locomotive handbook—mechanical equipment. New York Simmons-Boardman Publishing Corporation 1951 262 p. illus. 21 cm. \$4 95 2581

Contents: The development of the Diesel-electric locomotive. Fundamentals. Lubricating and cooling. Fuel systems—fuel, pistons, piston rings, injectors. Connecting rods, bearings, crankshafts. Valves, timing, intake. Governors. The steam generator. The air compressor. The American Locomotive Company Diesel engine. The Baldwin Locomotive Diesel engine. The electric motor Diesel engine. The Fairbanks-Morse Diesel engine. The Lima-Hamilton Diesel engine. The gas-turbine locomotive, index.

Note: Practical books suitable for use in home study by operating and maintenance personnel, especially those preparing to take qualifying examinations for such responsible positions. They are organized in short paragraphs, each of which is introduced by capsule in heavy type. Other aids to facilitate study are liberal number of good illustrations and numerous electric circuit diagrams. According to the preface the chapters devoted to specific locomotives have been thoroughly checked for accuracy by the manufacturers.

VAN METER, THURMAN WILLIAM

Trains, tracks and travel. Eighth edition. New York Simmons-Boardman Publishing Corporation, 1950 432 p. illus. 24 cm. \$4.95 2582

Contents: Charting the way. Our steam railroads. The railroad track. The steam locomotive. The challenge to steam. Freight cars. Passenger train cars. Streamliners on wheels. Passenger stations and terminals. Freight terminals. The operation of trains. Railroads and modern society. Index.

Note: (2147) An expert writer, popular account of American railroads, their history, rolling equipment, and operation. It appeals to young people, railroad fans, and general readers. The first edition was published in 1924, and the successive editions have grown but major revision in the equipment of American railroads. In the present edition—which is only nine pages longer than the preceding one—revisions have been made in several chapters. The major change is in the rewriting of the final chapter, but new statistical information and new descriptions of equipment have been inserted in several others.

PAPER

AMERICAN PAPER AND PULP ASSOCIATION

The dictionary of paper including pulps boards paper properties and related paper making terms. Second edition. New York American Paper and Pulp Association 1951 393 p. 24 cm. \$6 50. 2583

Contents: Philosophy of definitions. Classification and definitions of grades. Classification of waste materials used in the paper and board industries. Definitions of papers, boards, and papermaking terms. Bibliography.

Note: (4416) More than 3000 terms employed in the various branches of the paper industry are defined in this semi-official work. The definitions, though prepared by experts in the field, are designed for use by both laymen and technically trained readers. As in the previous edition, the majority of the terms refer to types of paper and include concise information on methods of manufacture, history, uses, and properties. The changes made in this revision are of minor nature and include an expansion of the bibliography chapters on pulps and waste materials, the insertion of some new terms, and revision of the two page bibliography.

CASEY JAMES P

Pulp and paper chemistry and chemical technology. New York Interscience Publishers, Inc., 1952 2 v illus. 24 cm. \$15 00 per volume. 2584

Contents: Volume 1. Pulp and papermaking: Cellulose and hemicellulose. Lignin. Pulping. Pulp. Bleaching. Fiber preparation. Nature of fiber bonding. Sheet formation. Filting and loading. Internal sizing. Surface sizing. Wet strength. Coloring. Microbiology. Water. Author index. Subject index. Vol. 2. Properties of paper and converting: Properties of paper. Use of statistics in the paper industry. Pigment coating. Printing. Lamination and pasting. Internal treatment of paper with various materials. Coating with various materials. Resins. Coresheeting. Author index. Subject index.

Note: A comprehensive treatise in which papermaking is viewed as essentially chemical process. However there is little in it of chemical theory. Instead the author has presented detailed information on the various processes that enter into the manufacture of pulp and paper, including only the strictly mechanical, on the physical and chemical properties of paper, the kinds and properties of paper coatings, etc. There are many hundreds of footnotes references to the literature.

GRAFF JOHN HENRY

Microscopy of pulp and paper. Appleton, Wisconsin The Institute of Paper Chemistry 1952 398 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. Number 177) Paper \$15 00 2585

Note: (4437) A bibliography which is complementary to the author's *Pulp and paper microscopy* issued by the same publisher in 1947. The arrangement is alphabetical by name of author and there are fully detailed author and subject indexes. Each entry is annotated. The International literature has been covered and the coverage is essentially complete through 1949. In addition some references have been added to material that appeared during 1950.

JOINT TEXTBOOK COMMITTEE OF THE PAPER INDUSTRY OF THE UNITED STATES AND CANADA

Pulp and paper manufacture prepared under the direction of the Joint Executive Committee on Vocational Education representing the Pulp and Paper Industry of the United States and Canada. J Newell Stephenson, editor in-chief. New York. McGraw Hill Book Company Inc., 1950-51 2 v 24 cm. Vol. 1 \$10.00 Vol. 2 \$7.50. 2586

Contents: Volume I, Preparation & treatment of wood pulp; Structure and properties of pulpwood; Preparation of pulpwood; Manufacture of mechanical pulp; Manufacture of sulphate pulp; Manufacture of alkaline-sulfate pulp; Treatment of pulp; Bleaching of wood pulp; Testing of wood pulp. Index. Volume II, Preparation of stock for paper making; Pulp of rag and other fibers; Wastepapers, board-stock preparation; Densification processes; Bleaching and refining; Filles and laminates; Sizing of paper; Paper coloring; Semi-chemical, high-yield chemical, and special groundwood pulping processes. Index.

Note: (46300) The manufacture of pulp and paper prepared by the Joint Executive Committee of the Vocational Education Commission of the Pulp and Paper Industry of the United States and Canada, was published during 1921-22 in five volumes. During 1927-29, second editions were issued of volumes 1, 4, and 5, and during 1931-32 a third edition of the same volumes appeared. The present work, of which the first two volumes are at hand, is an extensive revision and expansion of those three volumes. The text has not been so much rewritten as revised by interpolating and adding to the text of the third edition. Much new material including new tables and illustrations has been added. It is still intended for practical workers in pulp and paper manufacturing industries. Although designed both for school use and home study the treatment throughout is an authoritative and detailed that the work will appeal to comprehensive encyclopedias of pulp and paper manufacture. Beginning with this revision, complete sets will consist of four volumes, the present ones and others titled as follows: Vol. 1, *Manufacture and testing of paper and board*; Vol. 2, *Wastepaper mill equipment*.

MOSHIER, ROBERT H., editor

Specialty papers: their properties and applications. Prepared by a staff of specialists under the editorship of Robert H. Moshier. Brooklyn N Y Remsen Press 1950 520 p. illus. 23 cm. \$10.00 2587

Contents (abridged): Gift wraps, heavy box and packaging papers, by R. H. Moshier. Decorative papers: Display papers and lamp shades, by R. H. Moshier. Paper drapes, by J. C. Pickering. Book papers, by R. Moshier. Functional and protective papers: Food packaging, by J. J. Amels. Metal parts wrappers, by R. H. Moshier. High-strength specialty papers: Flat-faced papers, by R. Moshier. Friction-faced papers, by R. H. Moshier. Strain-resistant papers, by F. C. Raymond. Microfilm and decorative papers: Metallic coated papers, translucent coated and colored papers, etc., by R. H. Moshier. Miscellaneous functional papers: Flame-retardant papers, by E. O. Thompson. Asphalt and waterproof papers, by M. L. Downes. Wood papers, by A. M. Worthington. Coated and specialty types and labels, by F. W. Yarnall. Carbon papers, by E. R. Wenzinger. Films, by W. H. Allen. Metal-foil papers, by J. H. Davies. Chemistry, by R. H. Moshier. Index.

Note: Each chapter in this work contains information on the history, properties, uses, and manufacturers of specific type of specialty paper. Practically all of the chapters are accompanied by substantial bibliographies. The book appears to be the only full-scale treatment of the subject.

MOSHIER, ROBERT H. editor

The technology of coated and processed papers. Prepared by a staff of specialists under the editorship of Robert H. Moshier. New York Remsen Press Division, Chemical Publishing Co., Inc. 1952 733 p. illus. 22 cm. \$15.00 2588

Contents: Introduction, by R. H. Moshier. Theory of high polymers and their application to the paper-converting industry, by R. T. Moore. Rheology of paper coatings and instruments for the measurement of their flow properties, by F. Devry. Water-soluble coatings, by M. H. Moshier. Solvent coatings and solvent-recovery systems, by M. H. Moshier. Water-repellent coatings, by R. H. Moshier. Heat-set coatings, by R. C. Miller. Crystalline and plastic coatings, by M. H. Furman. Paper converting machinery, by F. W. Kegan. Printing inks and printing processes, by R. H. Moshier. Adhesives and lamination processes, by F. C. Campbell. Interfering agents and paper treatments, by W. A. Abramowitz and others. Machine production of printing papers and related specialties, by R. H. Moshier. The testing of raw stock, raw materials and specialty papers, by R. H. Moshier. Index.

Note: A companion volume to R. H. Moshier ed., *Specialty papers: their properties and applications*, described above. This publication first describes the papers themselves, and this one is

devoted mainly to the technology of their manufacture. Each chapter in the work of specialists associated with the paper converting industry or with ancillary to this industry and is accompanied by bibliography. A wide range of information on present-day materials and processes is presented. There are 103 tables of useful data and 140 figures. The editor is General Manager of the Mead Valley Coated Paper Company.

WEST, CLARENCE JAY

Paper testing. Second edition. Appleton, Wisconsin The Institute of Paper Chemistry 1949 182 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 139-144 June 1949) Paper \$5.00. 2589

Contents: Introduction. General articles. Handling strength. Bursting strength. Compressibility. Creasing quality. Tensile strength. Folding endurance. Bulkiness, stiffness, rigidity. Strain-at-break strength. Stretch, elasticity. Tearing strength. Tensile strength. Wet tensile strength. Author index. Subject index.

Note: A comprehensive listing of all the important articles relating to the methods of testing the strength of papers. The entries are arranged and grouped as indicated above. In this edition the number of references has been increased from 524 to 652.

WEST, CLARENCE JAY

Pulping processes. Parts I-IV. Appleton, Wisconsin The Institute of Paper Chemistry 1949-50 4 v. 27 cm. (The Institute of Paper Chemistry Bibliographic series. Nos. 172-175) Paper \$5.00 each. 2590

Contents (abridged): Part I, Whirl acid process. Part II, Chlorine process. Part III, Ammonia, magnesium, and sodium bases for sulfate pulping. Part IV, Semi-chemical processes.

Note: An extensive bibliography of articles, books, and patents descriptive of the various types of pulping processes which have been studied experimentally or which are in actual commercial use. The entries are arranged and written such subgroups are arranged alphabetically by author. Each volume includes patent and author indexes.

WEST, CLARENCE JAY

Slime control and prevention. Appleton, Wisconsin The Institute of Paper Chemistry 1949 76 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 170) Paper \$5.00. 2591

Note: A bibliography of periodical articles and monographs literature on the control of slime in pulp and paper plants. References relating to the treatment of processing water or the prevention of slime pulp are not included. The entries are arranged and arranged alphabetically by author.

WEST, CLARENCE JAY

Wet strength of paper. Second edition. Appleton, Wisconsin The Institute of Paper Chemistry 1951 155 p. 27 cm. (The Institute of Paper Chemistry Bibliographic series. No. 168) Paper \$5.00. 2592

Note: A bibliography of books, articles and patents on the treatment of paper to give it wet strength and on the testing and use of such paper. The entries are arranged. In this edition there are 391 references as compared with 117 in the first edition. An index to the listed patents is provided.

REFRACTORIES

AMERICAN IRON AND STEEL INSTITUTE
Refractories bibliography 1928-1947, inclusive. New York The Institute and the American Ceramic Society Columbus, Ohio 2109 p. 28 cm. \$15.00. 2593

Note: A major bibliography containing more than 11,000 references, almost all of which are accompanied by an abstract. The entries are arranged alphabetically by author; otherwise the book remains *Chemical Abstracts* in organization and style. The subject index is very detailed.

NORTON FREDERICK HARWOOD

Refractories. Third edition. New York: McGraw Hill Book Company Inc., 1949 782 p. illus. (part col d) 24 cm. \$10.00. 2594

Contents (abridged) Part I, Introduction: Scope of the refractories industry in the United States. Literature on refractories. History of refractory development in the United States. Part II, Manufacture: Refractory raw materials. Making methods. Drying. The firing of clay and other refractory materials. Kilns for burning refractories. Some special refractory materials. Part III, Properties: The fusion point of refractory materials and their equilibrium diagrams. Load bearing capacity of refractories. Spalling. Expansion and shrinkage. Stress and interference. Miscellaneous properties of refractories. Part IV, Uses: Refractories in the iron and steel industry. Refractories in the generation of steam power. Refractories in use in nuclear power production. Refractories for gas-turbines and jet propulsion engines. Brickwork construction. Appendix: References index.

Note: (4441) A comprehensive treatment in which there is information on practically all aspects of the subject from the early history of the industry in the United States to probable future uses of refractories. It is designed primarily for engineers and other persons with technical education or experience. However, some parts, especially those dealing with uses, are sufficiently non-technical to be useful to laymen who may need relevant information. A considerable amount of material has been added in this edition, including chapters on refractories in nuclear power production and in gas turbines and jet propulsion engines. Statistical information and also the unusually extensive bibliography have been brought down to date.

TEXTILES

MAUDSBERGER, HERBERT RICHARD, AND OTHERS

American handbook of synthetic textiles
American synthetics handbook: a practical text and reference book for the entire textile and related industries. By Herbert R. Maudsberger and twenty collaborators. Over 430 tables, charts, flowsheets, and illustrations. New York: Textile Book Publishers, Inc., 1952 1216 p. illus. 20 cm. \$10.80 2595

Contents: Historical background. Economics and statistical background. By J. R. Reed. Preparation of cellulose. Cellulose fibers and low processes. Manufacture of rayon yarns and staple. Manufacture of synthetic fibers, filaments and yarns (other than rayon). Processing of synthetic fibers, filaments and rayon yarns. Weaving and warp knits. Dyeing and finishing. By P. A. Schaefer. Weaving of synthetic fabrics. Synthetic gray goods construction. The manufacture of knit goods. By G. A. Ullrich. Dyeing of synthetics. By A. R. Macoscaric. Dye manufacturers. By A. R. Macoscaric. Synthetic piece goods printing. By H. F. Bauman. Finishing of synthetic fabrics. By L. Klepke. Performance standards for rayon fabrics. By J. Lohrman. Identification of synthetic fibers by X-ray diffraction. By A. M. J. Davis. Books, bibliographies and literature references. Appendix. Index.

Note: The first edition of a useful reference book. It is addressed primarily to the personnel of the textile industry and is written largely in technical terminology. A very wide range of information is included, ranging from an outline of the historical development of synthetic fibers and textiles to formulas for use in the practice of piece goods. A number of chapters contain bibliographies in addition to the general bibliography at the end of the book. The volume is bound chronologically approximately 100 pages of illustrations which are not included in the page count shown above.

MERRILL, GILBERT ROSCOE AND OTHERS

American cotton handbook, a practical text and reference book for the entire cotton industry by Gilbert R. Merrill Alfred R. McCormac and Herbert R. Maudsberger Second

revised edition. New York: Textile Book Publishers, Inc., 1949 943 p. illus. 20 cm. \$9.50. 2596

Contents: Historical background. Economics and statistical background of cotton growing and manufacturing. By J. R. Wallace. Cellulose and the cotton fiber. The cotton plant its cultivation and varieties. Ginning, cleaning and marketing. Opening and picking. Carding and combing. Drawing and roving operations. Standard and long staple spinning. Weaving and finishing. Spinning, weaving and finishing. Weaving of cotton gray goods. Knitgoods manufacture. Bleaching and processes preparatory to dyeing. Dyes and cotton dyes. Printing piece goods. Cotton goods finishing. Physical testing of fibers, yarns and fabrics. By E. E. Schwab. Chemical testing. By L. P. Skelton. Nomenclature of cotton dyestuffs. Bibliography. Subject Index.

Note: A comprehensive technical and economic reference book. By far the greater portion of space is given to manufacturing processes. Substantial changes are made in preparing this edition. Several chapters which appeared in the first edition do not appear in this one. These include such new chapters as the use of cotton gray goods construction, the use of the leavening of cotton materials, and the chemistry of cotton lumps. On the other hand, former treatments are now included of such subjects as bleaching, dyeing, printing, and finishing. The most notable change is found in the bibliography which has been approximately tripled in number of entries.

SU RALPH GUN HOY

Microbial decomposition of cellulose with special reference to cotton textiles. New York: Reinhold Publishing Corporation, 1951 531 p. illus. 22 cm. \$12.00. 2597

Contents: Part A, Introduction: Cellulose decomposition in nature. Part B, Structure and properties of cotton fabrics: Morphological, physical and chemical features of cotton fibers. Microbial features of cotton fabrics. Part C, General principles: Morphological and chemical aspects. Effect of structural and environmental factors on cellulolytic activity of microorganisms. Part D, Microbiology of cotton: General aspects of fabrics. Microbiology of cottons and cottons materials. Part E, Methods of preservation: Theoretical considerations. Methods for testing microbiological resistance of cotton textiles. Prevention of microbiological damage by physical means. Prevention of microbiological damage by toxic substances. Prevention of microbiological damage by chemical means. Author Index. Index of microorganisms. Subject Index.

Note: A synthesis of scientific information on the deterioration and destruction of cellulosic materials by bacteria and fungi. The author's discussion of insect matters such as mites and organisms are primarily of interest to anyone concerned with the topic but his "can insects" and his discussion on prevention of deterioration are largely restricted to the little influence on cotton textiles. The heavy documentation is indicated by the fact that there are approximately 1,200 names in the author index. The author is Research Director of the Fibers Research Laboratories of the U. S. Army Quartermaster Corps.

SEINKLE, JOHN HENRY

Textile testing physical, chemical and microscopical. Second edition, revised and enlarged. Brooklyn N Y: Chemical Publishing Co Inc., 1949 353 p. illus 22 cm. \$7.75 2598

Contents. Part I, Physical testing: Statistical analysis. Moisture determinations. Fiber testing Yarn testing Fabric testing construction—properties dependent upon size space—water and fabric relationships—(textile and drapery qualities) (hand)—(serviceability, wear abrasion. Strength and strength testing of fibers, yarns, and fabrics. Part II, Chemical testing: Extraction and general considerations. General and laboratory microchemical analysis. Organic microchemical analysis. Fiber analysis. Drilling and damage in cottons fibers. Damage to wool. Damage to silk. Part III, Microscopical testing: Identification Quantitative microscopical determinations. Index.

Note. In its second edition this useful manual has been enlarged by 60 pages and improved by thorough revision of text and format. The most important addition is a scheme of analysis to identify organic matter in building agents, in which the presence or absence of certain groups is determined first then each group is analyzed for its individual components. There are descriptions of various new instruments and tests, such as the A. T. M. test for measurement of absorption by spraying, drop penetration tests, and the drop water developed by the A. T. C. The lists of references have been extended.

HANDICRAFTS

ATWATER, MARY MEIGS

The shuttle-craft book of American hand weaving being an account of the rise, development, eclipse, and modern revival of a national popular art, together with information of interest and value to collectors technical notes for the use of weavers & a large collection of historic patterns. With illustrations. Revised edition. New York The Macmillan Company 1951 341 p. illus. 23 cm. \$5.50. 2599

Contents: Origins and development. Weaving looms—the scope of this book. Beginner's problems. Design of the fabric. Choice of pattern and color. Setting up the loom. Adjustments. Knots, the tie-up. Weaving. The plain weave. The twill weave. The four looms overcast weave. Additional four-harness weaves. The summer and-winter weave. The "spot" or "diamond" weave. Double-faced twill and damask. The double weave. Leno. Rug making. Pick-up weaving. Finishing. Index.

Note: This is the completely revised edition of a standard handbook on American weaving first published in 1923. It gives an account of the history of hand-weaving, its origin, development, decline, and modern revival; it also gives instructions for weaving and other information, including advice on the choice of loom and materials. Patterns for weaving are presented in technical diagrams and in photographic reproductions. Writing on the basis of long experience with the craft of hand-weaving, the author gives detailed directions for the fundamental processes, gives accounts of the weaves and patterns current in colonial North America, and supplies information on weaves from the southwestern United States, Mexico, Guatemala, and Peru. The author does not endeavor to cover Scandinavian weaving, tapestry weaving, draw-loom weaving, or fly-shuttle weaving. Although beginners without other instruction may find the book somewhat abstruse, the book is so recommended for any persons seriously interested in the practice of hand-weaving.

BAXTER, WILLIAM THOMAS

Jewelry gem cutting and metalcraft. Third edition, revised and enlarged. New York McGraw Hill Book Company Inc. 1950 334 p. illus. 21 cm. \$4.50 2600

Contents: Metalcraft. Jewelry making. The art of gem stone-cutting. Identification of gem stones and gem materials. Dealers. Magazines devoted to silversmithy and gem cutting. Books of interest. Index.

Note: The techniques of jewelry making and gem cutting described in this volume are based on methods taught by the author in his classes at Woodrow Wilson High School, Washington, D. C. The material is thus written for the guidance of novice and amateur craftsmen. This revision follows the pattern set by the previous editions, and employs numerous photographs to supplement the detailed working instructions. New sections have been added on facet cutting of gem stones, centrifugal casting, and making spoon-shaped forks and spoons. The list of equipment dealers and the brief bibliography have been brought up to date.

BLACK, MARY E

Key to weaving a textbook of hand-weaving techniques and pattern drafts for the beginning weaver. Revised and enlarged. Milwaukee The Bruce Publishing Company 1949 324 p. illus. 27 cm. \$6.50 2601

Contents: The loom. Preparing the loom. General information. Two-harness weaves. Three-harness weaves. Four-harness weaves. Five-harness weaves. Six-harness weaves. Eight-harness weaves. Weaving looms. Floor coverings. Bibliography. Glossary of weaving terms. Weaving terms in foreign languages. Index.

Note: The author of this detailed and fully-illustrated text is Director of the Handicrafts Division, Department of Trade and Industry, Nova Scotia. As indicated, the book is written for the beginner and provides descriptions of the various types of looms and methods of setting them up. The greater part of the volume, however, consists of instructions for weaving specific patterns and varieties of textures. In this edition new material has been added on warping, threading, two-harness weaving, and weaving of some wide and narrow looms. The final chapter on floor coverings is also new.

CHERNER NORMAN

Make your own modern furniture working plans and room designs for more comfortable and convenient living. Drawings by Norman Cherner and Frank Stork. Photographs by Thomas Yee. New York McGraw Hill Book Company Inc., 1951 140 p. illus. 26 cm. \$4.50. 2602

Contents: Part one, Factors in furniture design: Two looms in use. Your home is your largest and space. Fabrication and assembly. Steps in designing and planning the furniture. Part two, Suggested interior arrangements: One-room apartment. Living room. The child's room. Part three, Suggested furniture ideas: Seating and bedding. Table and work surfaces. Storage. Bedding. Upholstery. Reflections on tomorrow's interior.

Note: In this volume are presented instructions and plans for the construction of simple modern-style furniture. The book is written for the amateur craftsman, and the various operations require only the use of hand woodworking tools. The list of materials, assembly instructions, and sketches of construction details are preceded by brief descriptions of the basic wood working techniques. Considerable space is devoted to the selection and design of furniture to suit specific needs. Numerous photographs of furniture arrangements are included.

CRAMLET ROSS C

Woodwork visualized. Milwaukee The Bruce Publishing Company 1950 158 p. illus. 27 cm. \$1.76 2603

Contents: (abbreviated) Tool identification and classification. Lumber. Beams. Planks. Boards. Carving. Wood glue. Layout tools. Boring tools. Binding tools. Drill bit tools. Kneeling bench. Tool sharpening. Joinery. Fastenings. Hardware. Finishing. Projects. Index.

Note: An introductory book to the common hand woodworking operations and to the tools with which they are performed. It is included here because of the unusual method of presentation. Although the entire space is given to series of plates on which tools and operations are shown in exceptionally clear drawings. The drawings are accompanied by legends that explain the tool or operation.

FABRO MARIO DAL

How to build modern furniture. New York F W Dodge Corporation, 1951-52 2 v. illus. 29 cm. \$6.00. each volume. 2604

Contents: (abbreviated) Volume 1, Practical construction methods. General notes about wood. Nail joints. Nail to frame joints. Joints at three places. Plywood. Glue. Glued plywood. Fixed shelves. Shelves. Hinges. Application of doors to furniture. Catches and locks for doors. Adjustable shelves. Joints for drawers. Joints for wood and glue. Joining metal and wood. Common metal joints. Joining plate glass to metal. Joining metal to rubber. Upholstery work. Volume 2, Designs and assembly. Tools and equipment.

Methods of woodworking. Standard furniture measurements. Furniture you can build.

Note: Not only is this work devoted entirely to furniture in the modern style, but it covers certain specialties such as joining wood and glass which are not discussed in other books on furniture making. The greater part of the space is devoted to reproduction of drawings and photographs, and the attention is largely in the form of layouts which accompany the illustrations. The work is addressed to amateur craftsmen. Dimensioned drawings, lists of materials, etc., are given for a considerable range of domestic furniture.

FRIED, HENRY B

The watch repairer's manual. New York
D Van Nostrand Company Inc., 1949 307 p.
illus. 24 cm. \$6.00. 2605

Contents: The modern watch. Cleaning and overhauling watch movement. How to clean watch. Adjusting cannon pinion. Mainspring repairs. How to make stem. Filing balance staff. How to make balance staff. Adjusting balance staff. How to true balance wheel. How to pole balance wheel. Replacing pallet jewel. Replacing roller jewel. Causes of overhauling lost oil action. Adjusting pallet-guard spring. How to put watch in beat. Collecting and servicing. Reloading. General repairs. Trouble shooting. Appendix. Bibliography. Index.

Note: An excellent book whether it is used as text or reference material. All watch repairing operations which the average watchmaker will need to know are described explicitly and the majority of them are illustrated in clear, generously proportioned drawings. The book is suitable for use either in organized courses or in home study. The author is Head of the Department of Horology of the George Washington Vocational High School in New York City.

HAINES, RAY EDWARD AND OTHERS

The wood-turning lathe. By Ray B. Haines,
John V Adams, John G Miller Robert L.
Thompson, and Raymond Van Tassel. New
York D Van Nostrand Company Inc.,
1952 132 p. illus. 26 cm. (The home work
shop series) \$2 95 2606

Contents: History and basic principle of the lathe. The home workshop lathe. Basic tools and accessories—how to care and use. Basic operations. Advanced and special operations. Projects. Index.

Note: An introductory book for home mechanics. In it the wood-turning lathe, the tools and accessories used with it, and the basic operations as they are described clearly and simply. Both tools and operations are also shown in pictures. The chapter on projects presents for more than half of the space. It contains detailed descriptions, including lists of materials and dimensional drawings, for twenty six simple articles such as lamps, salt and pepper shakers and small tables.

HAWKINS REGINALD ROBERT, AND CHARLES H. ABRE

Home mechanic's outdoor handbook. New
York D Van Nostrand Company Inc., 1950
490 p. illus. 21 cm. \$5 95 2607

Contents: Driveways. Walks, stepping stones, steps, curbs, edgings. Terraces. Fences, tree walls and hedges, window wells, compact enclosures. Outdoor fireplace, grills, barbecues. Fences, gates, other structures. Gates, and trellises; foot bridges and other small structures. Garden paths. Garden ponds. Swimming pools. Sprinkler systems. Tennis courts; other recreation areas. Outdoor shelter. Basic operations. Planning the grounds. Bibliography. Index.

Note: A manual of information on how to build driveways, terraces, outdoor fireplace, and many other structures. Much reliance is made on utility and beauty of the well kept yard. It is written primarily to enable homeowners to design and build such structures themselves, but the suggested plans and construction details will be helpful also to those who have the actual work done by others. Much practical information is included which is not readily available elsewhere. The chapter on basic operations discusses such matters as stump removal, grading, concrete making, and masonry operations. Numerous sketches and working drawings are included. Although practically all of the typical garden structures are covered, the book is essentially one for the average homeowner rather than the professional landscape architect.

HOARD, F E., AND A. W MARLOW

The cabinetmaker's treasury. New York
The Macmillan Company 1952 267 p. illus.
26 cm. \$6.00. 2608

Contents: Essential processes in cabinetmaking. Chairs, Benches, Tables, Beds, Cupboards, Chests, Desks, Mirrors and dressing tables. Clock cases. Period characteristics of English and American furniture. Glossary.

Note: A book addressed to craftsmen (both amateur and professional) with some previous experience in woodworking. Certain fundamental operations, such as the making of joints, the construction of bracket feet, facing and sanding of turnings, and carving are discussed briefly in the first chapter. The rest of the book is devoted to scaled drawings of furniture pieces and to fully detailed procedures for making the pieces. Altogether there are 102 full-page plates of drawings. The book is especially useful to the maker of skilled amateur craftsmen who are interested in the making of fine furniture.

HONE, RUTH M

Ceramics for the potter. Peoria, Ill. Chas.
A. Bennett Co. Inc., 1952 229 p. illus. 24 cm.
\$4.50. 2609

Contents: From elements to clay. Clays; their classification and uses—their characteristics. The effects of heat on clays. Clay resources of the world. Bodies from naturally occurring clays. Glazes: hard paste porcelain—soft-paste porcelain. From slips to glazes. The porcelain glaze. Oxide and soda glazes. Glass. Enamels. Stencils. Patterns and colors. Kilns. The terms of pottery. Appendix. Bibliography. Index.

Note: This book is based on historical, scientific, and technical information intended to serve the amateur—beginner or professional—with serious interests in pottery can understand. Although the text includes some mathematical and chemical symbols, it is written in pleasant lucid style and is designed for straight reading. Some technical data of reference value, such as atomic weights, chemical composition of clays and glass formulas, are collected in the appendix.

HUNT, WALTER BERNARD

Indian silvermithing. Milwaukee Bruce
Publishing Company 1952 160 p. illus. 27
cm. \$5.50. 2610

Contents: (reprinted) Tools and equipment. Coining buttons. Money chips. The chips and bar chips. Lapal pins and branches. Rings. Turnishing or silvering. Techniques in Indian jewelry. Chained work. Bar ornaments. Coining links. Necklaces. Slides. Appliqued work. Fill and stamp pieces. Oval and round medallions. Bracelets. Arm guards or bracers. Belt buckles. Square buttons. Necklaces. Wide-mouth beads. Moustache vases and carvings. Index.

Note: A good book on the class of handicraft articles they should be popular with amateur jewelry makers. The tools and the operations of making with silver and turquoise, jewelry articles patterned after those made by the Navaho Indians and other tribes in the Southwest, are described clearly for beginners. There are seventy figures and four plates in color all of which appear to be reproductions of photographs. In addition there are forty-eight plates of reproductions of drawings made by the author. The author is an authority on American Indian crafts and many authentic designs are shown. However the inclusion of such articles in art-crafts and an anthology (in deeper) indicates that the book is not limited to articles of Indian origin.

KENNY JOHN B

The complete book of pottery making
With photographs and drawings made espe-
cially for this book by the author. New York
Greenberg 1949 252 p. illus. (part col'd)
27 cm. \$7.50. 2611

Contents: Introduction to clay. Getting started. The potter's wheel. Potter's table. Moulding. Slip casting. Molds about plaster. Clay and clay bodies. The firing. Glazes. Alloys. Glazes. Decorations. The pottery and India.

Note: A detailed and practical guide to the art of pottery making for both the beginner and advanced craftsman. The author's program gradually from the elementary operations performed by hand and on the wheel to the more difficult techniques of making stoneware, firing, and glazing. Numerous sketches and photographs showing the

various stages of each process constitute an important feature of the book. A final chapter discusses the possibilities of pottery making as a career.

KINGERY, ROBERT ERNEST

How-to-do-it books a selected guide. New York R. R. Bowker Company 1950 293 p 20 cm. \$3.50 2612

Note: A useful guide to books and pamphlets on handicrafts, across study child care, gardening, and host of other subjects. Most of the books listed were written for use by amateurs and laymen. Information on the following points is given for each book listed: title, author's name, publisher, year of publication, number of pages, price, and an annotation descriptive of the book content or purpose.

KINNEY RALPH PARSONS

The complete book of furniture repair and refinishing. Easy to follow guide with step-by-step methods. New York Charles Scribner's Sons, 1950 240 p. illus. 25 cm. \$3.50 2613

Contents: Restoration, Repairs, Removing old finish, Preparing for new finish, Refinishing, Restoring old finishes, Knausmaking and "wax" (further finishes, More about materials, Tools for the beginner, More hand tools, Sharpening and care of tools, Care and storage of paints and brushes, The home workshop—tools and shop practice, Care of furniture, Finishes, Reference books, Acknowledgments, Index.

Note: One of the better books on this subject for amateur craftsmen. The restoration and refinishing of old furniture are emphasized, but part of the material is applicable as well to the building of new furniture and to the finishing or finishing of articles of wood other than furniture. Most of the text consists of concise discussions of specific points or detailed directions for specific operations. Many of the illustrations have been made from photographs of finished antique furniture.

MARGON LESTER

Construction of American furniture treasures measured drawings of selected museum pieces with complete information on their construction and reproduction 38 full page plates, 344 detail drawings and more than 40 photographs of the work of the most famous early American cabinetmakers. New York

The Home Craftsman Publishing Corporation, 1949 167 p. illus. 30 cm. \$4.95 2614

Note: Measured drawings constitute the outstanding feature of this book. As indicated in the title, the furniture depicted is American and all of the pieces illustrated are now in the collections of museums or historic houses. Each piece represented is shown in a photograph, then its dimensions and construction details are shown in one or more plates of drawings. The book is intended for amateur craftsmen and cabinetmakers; consequently the illustrations are accompanied by detailed directions for construction and finishing of the pieces.

PELTON, B W

Furniture making and cabinet work, a handbook. New York D Van Nostrand Company Inc., 1949 596 p illus. 24 cm. \$6.95 2615

Contents: Cabinetmaking, Indoor furniture construction, Outdoor furniture, Built-in furniture and conveniences, Furniture finishing, Veneers and inlays, Upholstery and seat covering, Construction, repair and refinishing, Salvaging discarded furniture, Principles of interior decoration, Indoor remodeling, Index.

Note: Practical and detailed instructions for the amateur craftsman in the art of constructing wide variety of indoor and outdoor furniture. Each project includes dimensional drawings, list of materials required, and step-by-step construction methods. The project section is preceded by a description of basic woodworking operations and tools. The final chapters, although less detailed than the ones on furniture, provide information on the basic steps in room remodeling and interior decoration.

STANLEY WORKS. STANLEY TOOLS DIVISION

How to work with tools & wood. For the beginner for the home craftsman for the handyman for the homeowner New Britain, Connecticut Stanley Tools Division of the Stanley Works, 1952 181 p. illus. 24 cm. 2616

Contents: All of us can use tools. How to become skilled. Let's make something. Taking it from working drawing. Finishing up the workbench. This will be lunch. And now about using tools. Sharpening the tools. More about putting the pieces together. Some handy projects. Getting it ready for use. Things around the house. Index.

Note: A simple, fully illustrated introduction to hand woodworking tools and to such hand operations as planing, sanding, boring, and the making of joints. Some finishing operations are covered also.

INDUSTRIAL MANAGEMENT

GENERAL

ARRUZZI, ADAM

Work measurement new principles and procedures. New York Columbia University Press, 1952 290 p illus. 24 cm. \$6.00. 2617

Contents (abridged) Introduction. Industrial experimental studies. Designing research programs on industrial productivity. The problem of process standardization. Case studies of local industry. Studies of local stability. Implications. Case studies of grand stability. Studies of grand stability. Implications. Developing standard data for operation elements and motions. The relationships among operation elements. Comparing the work outputs of different operations. The importance of the likelihood ratio results. Motion standard data and related questions. Obtaining useful measurements and estimates. Measuring and estimating delay factors. Bibliography. Index.

Note. This book treats the subject of industrial work management from a new approach based upon modern experimental techniques. As result of series of intensive studies of representative industrial operations, the author presents evidence to show that all standard data procedures used for work management efforts are flawed. He introduces procedures which eliminate the most controversial aspect and the greatest risk of present practice by doing away with the need for using worker performance. The book shows that there is no "best way" of performing industrial operations. In presenting methodology for handling the problems of work management, he presents objective procedures and criteria for dealing with process can be considered standardized and for determining when certain standard data have predictive value. The book is of interest to persons who are professionally concerned with the theory of work measurement, especially industrial engineers. Full comprehension of the presentation demands an understanding of mathematical statistical analysis.

ALFORD, LEON PRATT

Principles of industrial management. Revised edition. Revised and rewritten by H. Russell Beatty New York The Ronald Press Company 1951 779 p. illus. 24 cm. \$6.25 2618

Contents (abridged) The background of modern industrial management. The effects of mechanization. Expansion of industry in the United States. The ownership of industry. Planning—objectives and policies. Organization for control. Organization for operation. Managerial practice and engineering standards. Control of production. Inventory control. Production planning and control. Quality control. Inspection. Modern and future study. Checkpoints and workstations. Cost accounting. Relationships of business and machinery. Personnel administration. Wage and salary administration. Employment and personnel services. Industrial safety—accident and disease prevention. Index of names. Index of subjects.

Note. An unusually comprehensive and thorough presentation of the basic principles and practice of industrial management. The book, although intended primarily for use as a college text, has considerable value as a reference manual for the practicing executive. Emphasis is placed on fundamentals but numerous illustrations of actual management techniques are included. This edition, analysis of Principles of industrial management for engineers, New York, 1942, has been extensively rewritten and enlarged. New chapters have been added on industrial leadership and marketing and the sections on quality control and motion and time study have been greatly expanded—changes which account for about 250 additional pages.

APPLE, JAMES MACGREGOR

Plant layout and materials handling. New York Ronald Press Company 1950 367 p illus. 23 cm. \$5.00 2619

Contents (abridged) The plant layout function. Production planning. Introduction to the materials handling problem. Materials handling equipment. Materials handling and related functions. Operation planning. Layout planning. Service departments. Checking and approving the layout. Plant location. Industrial plant buildings. Appendixes. Overview data. Lift trucks. Materials handling surveys. Railroad and highway transportation. Building construction and service facilities. Plant layout symbols and model standards. Bibliography. Index.

Note. In this work plant layout and materials handling are presented as elements in industrial engineering. Much emphasis is put on co-ordination of the plant layout and the materials handling system with the overall plan and function of the plant. Typical equipment is discussed and illustrated, but this matter is incidental to the main theme. The book is suitable for use both as textbook and as an introduction or "reference" for practicing engineers.

BELLOWS ROGER MARION

Psychology of personnel in business and industry New York Prentice-Hall, Inc., 1949 499 p. illus. 23 cm. (Prentice-Hall industrial relations and personnel series, Dale Yoder editor) \$6.70 2620

Contents. Part I. Development of personnel technology: Personnel methods serve management. Background of personnel technology. Part II. Tools for effective use of personnel. Criteria. Job analysis. Attracting personnel. Selection interviewing. The use of psychological tests. Training. Job evaluation. Personnel incentives. Merit evaluation. Employee dynamics—turnover control. Part III. Worker satisfaction through human understanding: Industrial social psychology. Employee counseling. Personnel communications. Techniques for improving communications. Employee attitude surveys. Employee suggestion systems. Part IV. Implications of personnel technology: Personnel man in business. Trends in personnel research. Appendixes. Index.

Note. The psychology of human relations in business and industry is considered in all its aspects in this textbook for students of business administration and other persons interested in improving personnel management by use of personnel systems and procedures. Personnel methods and management are covered from the sociopsychological viewpoint. Summaries and selected references appear at the ends of chapters. The appendices contain much useful information, including lists of sources for motion pictures and sound-slide films, descriptions of government training films, catalogues of books concerned with personnel subjects, suppliers and publishers of tests, publishers of pamphlets on occupations, personality, and research and professional organizations in the field of personnel and industrial relations.

BETHEL, LAWRENCE L. AND OTHERS

Industrial organization and management, by Lawrence L. Bethel, Franklin S. Atwater, George H. K. Smith and Harvey A. Stackman Jr. Second edition. New York McGraw-Hill Book Company, Inc. 1950 851 p. illus. 24 cm. (McGraw-Hill industrial organization and management series, L. C. Morrow consulting editor) \$7.00. 2621

principles rather than upon the examples. While technically forecasting, planning, and control are engineering activities, decisions from the engineering viewpoint are supplemented by social and humanistic considerations.

MALICK, RANDOLPH W AND ARMAND T GAUDREAU

Plant layout planning and practice. New York John Wiley & Sons Inc., 1951 391 p. illus. 25 cm. \$7.50. 2627

Contents (abridged): Part 1, Approach to plant layout: The role of plant layout in management. Ascertaining the need for re-layout. Tools for designing plant layout. Techniques of plant layout engineering. Part 2, Fixating the processing departments: Framework of plant layout procedure. Determining the capacities for the design. Analyzing, balancing, and testing the operations. Planning and equipping the work station. Internal transportation of plant material. Part 3, Designing plant service facilities: Receiving, shipping, and warehouse areas. Personnel and storage facilities. Tool rooms, inspection points and dispatch stations. Maintenance facilities, test cells, and sprayer systems. Power and lighting systems. Planting office layouts. Employee service facilities. Part 4, Justifying the layout project: Buildings for housing the plant layout. Promoting the proposal to the management. Bibliography index.

Note: An outstanding work on this subject. Well organized, well written, and very generously illustrated, it is designed for practical use by corporate executives and plant engineers. The material is applicable both to the design of new layouts and the re-design of established ones.

MOORE, FRANKLIN G

Production control. New York McGraw Hill Book Company Inc., 1951 455 p. illus. 24 cm. \$6.00. 2628

Contents: Production control duties. Types of production. Types of production control. Forecasting and scheduling. Authority to manufacture. Basic information required for order control. Dispatching, drawing numbers, and identification systems. Determining parts and materials requirements for order control. Priorities for production in order control. Isolating production and controlling production in progress with order control. Flow control. Block and lead control. Mechanical isolation. Representation of labor and communications systems. Relationship of the production control department with other departments. Value of production control. Cases and problems. Bibliography index.

Note: This introduction to the basic principles and methods of production control is designed for use in college courses in commerce and management. In order to illustrate why certain procedures are followed various techniques and terms employed in industry are described in detail. Numerous flow charts and seventy case studies and related problems are included. The author is Professor of Management at Northwestern University School of Commerce.

TIME AND MOTION STUDY

BARNES, RALPH MOSSER

Motion and time study Third edition. New York John Wiley & Sons Inc., 1949 559 p. illus. 24 cm. \$5.50. 2629

Contents (abridged): History of motion and time study. Motions which motion and time study may be profitably used. Process analysis. Activity charts—man and machine charts. Operation analysis. Fundamental basic motions. Machine study and micromotion study equipment. Making the motion picture. Factors in the motion study equipment. Making the time study—determining the motion factors—determining allowances and time standard. Determining time standards from elemental time data and formulas. Determining time standards for the man and tool work. Determining time standards for assembly operations. Motion and time study training programs. Appendixes. Bibliography index.

Note: (4489a) A thorough study of the basic principles and methods of motion and time study. It is devoted almost exclusively to mechanical techniques and each phase of the subject is well

illustrated with case studies drawn from various manufacturing fields. Revisions and changes in this edition are largely based on the author's survey of thirty factories. New chapters on process analysis, gang process charts, activity charts, and machine charts have been added, and numerous action photographs are now included.

CARROLL, PHIL

Timestudy fundamentals for foremen. With a foreword by Glenn Gardiner Second edition. New York McGraw Hill Book Company, Inc. 1951 209 p. illus. \$3.00. 2630

Contents: What timestudy gives to industry. Why you should understand timestudy. How to begin. Timestudy. Looking at the job details. How long does it take? How long should it take? How to set consistent element times. What job details repeat? How to set standards. How to set up timestudy. Incentive plans explained. How can you improve methods. How your job changes. Are you looking ahead? Selected references. Index.

Note: A small book written in simple language. Its purpose is to acquaint foremen and supervisors with the basic principles and methods of conducting timestudies. The explanations of how such study is applied and what it can accomplish are given clearly and simply. Numerous charts and formulas help to attract and clarify the textual material. The first edition was published in 1944. This second edition is an extensive revision. The chapter on incentive plans, in particular, has been revised and enlarged, and the bibliography now includes books published since 1944.

MUNDEL MARVIN EVERETT

Motion and time study principles and practice. New York Prentice-Hall, Inc. 1950 457 p. illus. 23 cm. \$7.00. 2631

Contents (abridged): What motion and time study can accomplish. The human factor. The scope of motion and time study. How to start the analysis. Process chart—product analysis—man analysis—combined analysis. Operation charts. Multiple-survey analysis—man and machine charts—machine charts. Micromotion study. Micromotion study and therbligs. Micromotion study. Time study—definition of standard time—reviewing the standard practice—correcting the time—time—rating—objective rating—allowances. Synthesized time standards. Applying motion and time study standards. Problems. Bibliography index.

Note: A textbook for college courses which provides systematic and practical introduction to and treatment of motion and time study. The basic principles are presented which underlie all successful motion and time studies, and illustrative examples from many industries and types of work are given in great detail so that the numerous detailed applications of procedures may be seen. The material presented was tested by use in university classes and in in-plant training courses for workers of various levels. A detailed bibliography and 22 pages of problems appear at the end of the book.

SILVESTER, LAWRENCE ARTHUR

The handbook of advanced time-motion study New York Funk & Wagnalls Company 1950 273 p. illus. 24 cm. \$5.00. 2632

Contents: Introduction. Part 1, The theory of work and the causes of deviations in rates of production. The nature of known work. Work can be measured. The concept of day's work. The theory and nature of individual differences. The effects of variable conditions. A summary of theory. Part 2, Advanced practice of time-motion engineering: The human side of time-motion study. Personal conditions. Tools and equipment. How to take time-motion study. Producing time and standard time values. Standard data versus job time study. Maintaining standardized conditions. Administration of the time-motion department. Conclusions. Looking forward. Acknowledgments. Index.

Note: The author who is president of management engineering firm, has written this book primarily for graduate industrial engineers and others, such as sales engineers, who have professional interests in time-motion studies. Human work is regarded as having three components: 1. Mechanical component; 2. Human component; 3. Human component (psychic) and A.M., etc. 4. Conditional component—pressure, light, heat, ventilation, humidity, temperature. The human component of the human element and of industrial relations is stressed. Examples of the application of the meth-

aspects only. However, the latter are adequately treated, not only in the chapter on statistical methods but in sections in other chapters. The book is intended for executives and others in industry who are directly concerned with the control of quality of manufacturing products and with establishing and administering quality control programs in manufacturing plants. It is practical, direct treatment, full of useful information for its intended readers.

SCHROCK, EDWARD M

Quality control and statistical methods
New York Reinhold Publishing Company
1950 213 p. Illus. 24 cm. \$5.00 2639

Contents: (abridged) What quality control and statistical methods have to offer. Case histories. The meaning of graphs. Summarization of data. Pictorial presentation of data. The quality control chart to identify assignable causes. Modified control chart limits. Use of control chart. How to use trend tests. Quality control by check gaging. Use of the variables control chart as a basis for reducing volume of inspection. Binomial and Poisson distributions. Acceptance sampling. Sequential analysis. Least squares and correlation. Glossary. Suggestions for further reading and references. Index.

Note: A practical introduction. The topics included have been well selected, the discussions of them are short and explicit, and the relationships between quality control techniques and the economical production of satisfactory products are made clear. About 30 pages of the book are taken up with a series of references to the number of defects. The book is suitable for factory workers and supervisory personnel who are making their first contacts with quality control.

SAFETY ENGINEERING

ASSOCIATED GENERAL CONTRACTORS OF
AMERICA INC.

Manual of accident prevention in construction. Fourth revised edition. Washington, D. C. The Associated General Contractors of America, Inc., 1952 257 p. Illus. 24 cm. \$3.00 2640

Contents: Introduction. Accident prevention organization. Housekeeping. Excavation. Fire and explosion. Arc welding. Gas welding and cutting. Flammable gases and liquids. Handling and storage of materials. Erection. Shoring. Scaffolding. Explosives. Pile driving. Form construction and concrete placement. Hoists, cranes, and derricks. Steel erection. Masonry. Scaffolding. Ladders. Power lines. Road work. Road and street construction. Motor grades, bulldozers and tractors. Conveyors and chutes. Equipment upkeep. Motor trucks. Curbs and curb stops. Trucks. Skids. Compressed air work. Barges. United pressure vessels. Railroad construction. Quays and gravel pits. Laying pipe lines. Boats and barges. Temporary electrical installations. Fire hazards and prevention. Protective clothing. Camp housing and sanitation. Occupational diseases. Inspection. Reference tables. Alphabetical index.

Note: A practical and clearly presented guide to safe ways of performing construction work. The text is supplemented by numerous photographs, diagrams, and illustrations and throughout the book emphasis is placed on the importance of educational work and of proper organization and methods. This edition includes new sections on housekeeping, welding, power work, flammable gases and liquids, bulldozers and tractors, and boats and barges. Reference tables of weights and safe working loads are included.

GRAY DWIGHT E. AND JOHN H. MARTENS
Radiation monitoring in atomic defense.
New York D Van Nostrand Company Inc.
1951 122 p. Illus. 21 cm. \$2.50 2641

Contents: Part one, Background information. What is atomic energy? What is nuclear radiation? What kinds of hazards do atomic explosions present? What radiation hazards result immediately from an atomic explosion? What radiation hazards continue after an atomic explosion? What basic protective measures can be taken against atomic explosions? How are nuclear reactions detected and measured? Part two, Instruments and equipment. Basic considerations. The Geiger counter survey meter. The ionization

chamber survey meter. The proportional alpha counter. Pocket chambers and dosimeters. Film badge dosimeters. The AEC emergency monitoring kit. Future defense monitoring instruments. Bibliography. Index.

Note: A short, clearly written non-specialist's book on the detection and measurement of dangerous radioactive materials and on the instruments which are used for such detection and measurement. It is addressed primarily to civil defense personnel whose duties will include the protection of others from dangerous radiation in times of emergency. It should be of interest also to laboratory workers who handle radioactive materials and to safety personnel in industrial establishments where use is made of such materials.

HEINRICH HERBERT WILLIAM

Industrial accident prevention a scientific approach. Third edition. New York McGraw Hill Book Company Inc., 1950 470 p. Illus. 24 cm. \$6.50 2642

Contents: Principles of accident prevention. Basic philosophy of accident prevention. Safety organizations—first aid and hospital—creating and maintaining interest. Facts and fact finding. Accident analysis. Selection of remedy. Application of remedy—corrective action. Machine, job—worker and power-transmission guards. Personal and procedure remedies. Personal protective devices. Illumination and vision. Occupational diseases. Motor-vehicle faults. Safety psychology. Foreign. Education. Forecasts for supervisory. Accident statistics. Summary. Appendixes. Chronology of industrial accident prevention. Background of industrial safety. Standards for mechanical guarding. Examination of industrial interiors. Causes of compensated accidents. Relation of age to industrial injuries. Bibliography. Index.

Note: (4701) In this text for students and safety engineers emphasis is placed on the basic principles and methods of accident prevention, rather than on detailed discussion of specific safety measures. Descriptions of protective devices and case histories are included, but only to illustrate how an accident situation may be analyzed and corrected. On the other hand, administrative aspects, such as methods of presenting top management to institute or supplement the safety program in plants, are covered in some detail. The major changes evident in this revision include newly added chapters on motor-vehicle faults, solving supervisory problems, personal protective devices, and selection on safety education courses. Books published since 1941 have been added to the bibliography.

NATIONAL SAFETY COUNCIL, INCORPORATED

Accident prevention manual for industrial operations. Second edition. Chicago National Safety Council, Inc., 1951 793 p. Illus. 23 cm. \$18.00 2643

Contents: Permanent structures and plant layout. Maintenance and maintenance crews. Builders. Process vessels. Refrigerating equipment. Principles of guarding and transmission. Smith. Power plants. Metalworking machinery and shapers. Welding. Woodworking machinery. Overriding special equipment. Rescue and manual handling of material. Power handling of material. Hand and portable power tools. Welding and cutting. Electrical hazards. Flammable liquids. Fire prevention. Fire extinguishers and control. Personal protective equipment. Motor transportation. Industrial health engineering. Industrial poisons. Medical services and table of chemical hazards. Safety organizations and training. Accident records. The safety man's resources. Index.

Note: (1318*) A guide and reference book of principles and good practices, written for safety engineers and foremen and intended for use in conjunction with the technical publications on specific safety problems issued by the National Safety Council. In this edition the new sections are those covering maintenance, boilers, pressure vessels, refrigerating equipment, welding, industrial poisons, industrial health engineering, and medical services. The book has been reorganized so that the former second and third parts, covering construction and dusts and personal equipment and facilities, have been absorbed into the various sections of the book. A feature is the new final section "The safety man's resources," which is a compendium of information concerning the work and publications of the various trade associations, public agencies, and private service organizations in the field of safety engineering.

SAX NEWTON IRVING, AND OTHERS

Handbook of dangerous materials Assisted
by M. J. O'Herin and W. W. Schultz. New
York: Reinhold Publishing Corporation, 1951
848 p. 26 cm. \$15.00. 2644

Contents: References. List of abbreviations and symbols. General
chemicals. Explosives. Fungus diseases and fungicides. Radiation and
radiation hazards. Shipping regulations. General index.

Note: A work of interest to factory managers, safety personnel,
and industrial physicians. The first part is an alphabetically ar-

ranged compilation of materials that are hazardous to human beings
because they are poisonous, cause allergic reactions, or are asphyxiants.
The following points are covered for most of the materials included:
hazardous properties, storage and handling, symptoms, chemical
formulas, chemical and physical properties, shipping regulations. The
verities of many of the materials include one or more literature
references, but literature references are not always given. The sec-
tion on fungus diseases includes much information on diagnosis and
treatment. The section on shipping regulations is a reprint without
editorial comment of the current regulations pertaining to explosive
and hazardous materials of the Interstate Commerce Commission.
The reader author is toxicologist associated with the General Elec-
tric Company at Schenectady, New York.

AGRICULTURE

GENERAL

ADVANCES IN AGRONOMY Prepared under the auspices of the American Society of Agronomy. Volume 1. Edited by A. G. Norman. New York: Academic Press, Inc., 1949. 439 p. illus. 24 cm. \$8.50. 2645

Contents: Plant growth on siliceous and alkali soils, by H. K. Heywood and C. H. Wadleigh. New fertilizers and fertilizer practices, by R. J. Jones and M. T. Rogers. Byproducts, by M. G. Wilson. The clay minerals in soils, by J. Z. Gieseking. Alkaline improvement, by W. J. White. Soil microorganisms and plant roots, by T. E. Clark. Weed control, by A. R. Crafts and W. A. Harvey. Barren lands and crops, by K. C. Berger. Potato production, by O. Smith. Fertilizers of soil phosphorus, by L. A. Dunn. Author index. Subject index.

— Volume II. Edited by A. G. Norman. New York: Academic Press, Inc., 1950. 407 p. illus. 24 cm. \$8.50. 2646

Contents: Cotton, by J. R. Adams. Soil nitrogen, by L. E. Zimmerman and R. W. Patterson. Vegetable production, by J. E. Kuntz and G. A. Lorenz. Fertilizer soils of the upper Mississippi valley, by G. D. Smith and others. Linseed clover, by G. H. Abbot and R. F. Fritschman. The control of soil water, by E. C. Childs and M. C. G. G. G. Preservation and storage of forage crops, by R. R. Mendenhall and W. K. Kennedy. The reclamation of coal mine spoils, by H. K. Kunka. Irrigated pastures, by W. Keller and M. L. Peterson. Author index. Subject index.

— Volume III. Edited by A. G. Norman. New York: Academic Press, Inc., 1951. 361 p. illus. 24 cm. \$8.50. 2647

Contents: The soil, by E. Winters and R. W. Simonsen. The management of alkali marshes, by C. J. Wilford. The chemistry of soil potassium, by R. F. Rahnke. The changing pattern of agriculture in England and Wales, by J. A. McIlroy. The adaptability and breeding of suitable grasses for the Southwestern states, by G. W. Bock. Chemical treatment of the soil for nematode control, by A. L. Tryggvason. Problems and progress of soil conservation in the United States, by H. J. Harper. Irrigation, reclamation and soil research in the United States, by R. O. Parks. Author index. Subject index.

— Volume IV. Edited by A. G. Norman. New York: Academic Press, Inc., 1952. 416 p. illus. 24 cm. \$8.50. 2648

Contents: Grassland management in Australia, by H. C. Trumble. Type of soil and the natural nutrition of plants, by A. McIlroy and M. T. Coleman. The physiological basis of variation in yield, by D. J. Watson. Copper in nutrition, by F. A. Gilbert. Environmental and physiological factors in compensating forage seed selection, by R. E. Ploner and others. Soil moisture in relation to plant growth, by E. G. Melcher and F. C. Corvino. Aspects of the plant and soil, by W. E. Tibbitts and P. B. Pomeroy. Vegetation control on industrial lands, by K. C. Barnes. Soil and the growth of forests, by T. R. Cole. Author index. Subject index. **Note:** A series of several volumes designed to survey and review the latest developments in the field of plant nutrition, growth, management, and utilization. Each volume consists of individual papers prepared by specialists, most of whom are associated with the agricultural departments of leading universities in this country and Europe. The selection of papers indicates broad interpretation of the term "agronomy" but throughout the series the basic theme is soil-plant relationships. Each paper includes an extensive list of references listed in the text material.

BEYER, GLENN H.

Farm housing in the Northeast. A survey of facilities, activities, possessions, and preferences of families on owner-operated farms. The factual findings by Glenn H. Beyer with the assistance of the Northeastern Farm Housing Technical Committee, Ithaca, New York: Cornell University Press, 1949. 458 p. illus. 24 cm. \$4.50. 2649

Contents: (abridged) Introduction and background; Methodology. Geographic distribution and economic groups of families. Part I. The present pattern of farmhouses: Age of dwelling units. Type of construction. Size of house. Equipment and furniture. Part II. Household activities: Food preparation and preservation. Laundry work. Sewing. Entertainment. Part III. Household inventories: Food. Clothing and sewing materials. Bedding and household items. Need for additional storage space. Part IV. General housing preferences. The dwelling unit. Equipment and furniture. Household activities. Part V. Summary. Glossary. Index.

Note: An analytical presentation of the results of present housing facilities and housing needs of families living on farms in the states of Connecticut, Maine, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island, and West Virginia. The data were gathered largely by personal interviews. They throw light not only on housing requirements but also on household activities on farms. For example, information is included on the kinds and quantities of livestock produced in a year. The book is one product of a project which has as its ultimate goal the development of successful farm plans suited to the needs of farm families in the region covered.

CASTLETT, EDWARD FRANKLIN AND WILHELM H. BELL

Yuman Indian agriculture, primitive subsistence on the lower Colorado and Gila rivers. New Mexico. The University of New Mexico Press, 1951. 274 p. illus. 24 cm. \$6.00. 2650

Contents: The country. The people. General basis of subsistence. Agricultural implements. Cultivated crops. Agricultural techniques. Domestication of seed plants. Wild plant and animal products. Irrigation and group activities. Summary discussion, and bibliography. Bibliography index.

Note: (4708) A complementary work to the authors' *Plants and Peoples of Indian Agriculture, Albuquerque, 1942*. Agricultural crops and practices are the main topics, but these are described in their environmental and social setting. The first two chapters of the book are basic and account for approximately one quarter of the total space. Agricultural practices are described in all the available detail. These include various techniques of food preservation; for example, methods of preparing pumpkins for localities storage. The book is of interest to students of anthropology as well as to readers interested in the history of agriculture.

FULMER, JOHN LEONARD

Agricultural progress in the cotton belt since 1920. Chapel Hill: The University of North Carolina Press, 1950. 236 p. illus. 23 cm. \$3.50. 2651

Contents: Trends in the cotton belt. Regional trends. Farm organizational changes. Mechanization. The mechanized harvest of cotton. Utilization and agriculture. Other dynamic factors influencing southern agriculture. Income shifts. Summary and conclusions. Statistical appendix. Selected bibliography. Index.

Note The extensive changes in the last three decades in the agriculture of the southern states of the United States of America whose outline in the traditional crop are detailed in this volume. The main viewpoint of the book is economic and much of the information is presented in the form of statistical tables. However, the economic aspects are directly related to changes in agricultural practices, particularly those changes which resulted in the decline of importance of cotton as a cash crop. The chapter on the mechanical harvesting of cotton gives a useful summary of experience with mechanical pickers and strippers. The book is thoroughly documented throughout.

HEDRICK ULYSSES PRENTISS

A history of horticulture in America to 1860 New York Oxford University Press, 1950 551 p. illus. 23 cm \$7.50 2652

Contents: Part I Indian gardens. Colonial New England. Colonial New York. The colonies on the Delaware. Colonies on Chesapeake Bay. The South Atlantic colonies. Part II Post-Revolution in the north. Post-Revolution in the south. The North Atlantic states, 1800-1840. The North Atlantic states, 1850-1860. The South Atlantic states, 1800-1840. The North-Central states. The South-Central and Gulf states. The Far West. Part III Botanical explorers and botanical gardens, 1800-1840. The flora of plant introductions. Horticultural literature, 1700-1860. Horticultural societies, 1790-1860. Bibliography. Index.

Note The first and only volume on the subject indicated by its title. This book was written by the late director emeritus of the New York State Agricultural Experiment Station. As sources the author consulted official documents, botanical and agricultural books, magazines, and newspapers of the period, as well as books of travel. Any persons concerned with gardens (from growing, or vocabulary who wishes to know something of the early history of these activities in the United States and the early Republic will find the volume of interest.

HOUK, IVAN E

Irrigation engineering. Volume 1: Agricultural and hydrological phases. New York John Wiley & Sons Inc. 1951 545 p. illus. 24 cm. \$9.75 2653

Contents: Introduction. Irrigation soils. Soil fertility. Moisture in irrigation soils. Soil-moisture measurement. Climate factors. Rainfall and evaporation. Snow melting and runoff forecasting. Evaporation from water surfaces. Land preparation and transportation. Irrigation and water requirements. Levees and works of irrigation water. Irrigation water supplies. Quality of irrigation water. Irrigation of saline and alkali soils. Irrigation preparations and procedures. Miscellaneous factors. Subject index.

Note A comprehensive and detailed treatise. It covers not only the broad aspects as named in the chapter titles, but also the sub-topics such as the preparation of soilfall interpreted by the fallow of plants. The published literature has been minutely digested, and statements in the text are keyed to the lists of references which accompany the chapters. Numerous tables of data such as "Permissible velocities in canals excavated through different soils" are included. The writing is on a professional level and the work is suitable for advanced students of agricultural engineering, practicing irrigation engineers, and other technical personnel concerned with irrigation. The second volume of the work will discuss the planning and construction of irrigation projects.

IOWA STATE COLLEGE

Midwest farm handbook. Second edition By members of the staff Iowa State College. Ames Iowa State College Press 1951 280 p. illus. 24 cm. \$2.50. 2654

Contents: Animal husbandry. Dairy husbandry. Livestock disease prevention. Dairy industry. Poultry. Poultry diseases. Agricultural engineering. Agronomy. Weed control. Plant disease control. Food analysis. Land treatment. Pest control. Business and farm management. Veterinary. Landscape architecture. Horticulture. Miscellaneous. Weather. Index.

Note A reference book of practical information. The presentation of many topics is very condensed but the main points are covered. In most instances brevity has been achieved only by including the most useful facts or describing the most effective method in the neglect of others. The discussion of some topics such as taxes are strictly local in application, but considerable part of the book is applicable to farming in any region where cereals and crops resemble those of Iowa.

ISRAELSEN, ORSON WINRO

Irrigation principles and practices. Second edition New York John Wiley & Sons, Inc., 1950 405 p. illus. 23 cm. (The Wiley agricultural engineering series edited by J. Brownlee Davidson) \$6.50. 2655

Contents: Progress and problems. Sources and storage of irrigation water. Measurement of irrigation water. Conveyance of irrigation water. Pumping water for irrigation. Irrigation methods. Farm irrigation implements and structures. Bedding and water wheels. Storage of water in unconsolidated soils. The flow of water in soil. Saline and alkali soils. Drainage of irrigated lands. Value of location. Consumptive use of water. By H. F. Blaney and O. W. Israelsen. Irrigation of cereals, forage, and root crops. Irrigation of orchards. Irrigation in humid climates. Social and administrative aspects of irrigation. By J. H. Magoshan. Appendices: Problems and questions. References. Index.

Note. (4118) The revised edition of this textbook for college and university students covers the same field as the first edition, but the work has been changed and improved in the light of 16 years of additional study and experience. Some chapters have been entirely rewritten and others contain major changes. A new chapter is included on the drainage of irrigated lands. The references have been brought up to date and are now grouped at the end of the book. The publication is of value to farmers concerned with large-scale irrigation problems and to agricultural, agricultural engineers, and civil engineers, as well as to students. The volume includes tables of the United States showing mean annual precipitation, real time and types indicating average annual precipitation in depth in inches.

JUSTICE O L. editor

Manual for testing agricultural and vegetable seeds. United States Department of Agriculture. Production and Marketing Administration in cooperation with the Bureau of Plant Industry. Soils and Agricultural Engineering. Most of the work on this manual was performed under a project authorized by the Research and Marketing Act of 1946. Washington, D. C. Government Printing Office, 1952 440 p. illus. 24 cm. (United States Department of Agriculture. Agriculture handbook no. 30) \$4.00. 2656

Contents: Introduction. Seed sampling and testing equipment. Obtaining the seed sample. Procedures for determining purity composition. Application of purity procedures to specific groups of seeds. Procedures for determining germination. Application of germination procedures to specific groups. Examination for ungerminated seeds. Order of seeds. Testing for trueness of variety. Testing for uniformity. Calculations, records, and reports. Identification of seeds. Testers' structure, and auxiliary characteristics of seeds. Physiology of seed. Psychological considerations in seed testing. Literature cited. Selected references. Available publications on seed testing. Glossary. Appendix. List of botanical names. List of plant names. List of botanical and common names. Index.

Note. A book of instructions for seed technologists and laboratory workers showing how to conduct laboratory tests and presenting other background information of practical nature. Procedures are given for the testing of all kinds of agricultural and vegetable seeds, domestic and imported. A critical section of 34 plates gives drawings of the seeds of 735 species of grasses, grains, vegetables, and fruits. The manual supersedes the Department's Miscellaneous publication no. 437 Testing farm seeds in home and school, published in 1941.

MALONE CARL C

How to make your farm pay a practical guide for Midwest farm operators. Ames, Iowa The Iowa State College Press, 1950. 371 p. illus. 24 cm. \$3.75 2657

Contents. Who should learn. Where should you learn. History of making-a-management problem. Choosing the type and size of farm. Getting started. Laying out the cropping program. Fixing farm stock into the farm plan. Making the most from your land. Putting the farm plan together. When you go to market. Checking up on yourself. Malware—public and private. Around the family table. Index.

Note: A reliable introduction to sound farm management practices for farms in the Corn Belt and adjacent farming regions in the area of the United States known as the Midwest. The regions included areas where several main types of farmwork are practiced including the growing of corn, wheat, beef cattle and hog raising, dairying, and "mixed" farming. The main theme of the book is that farming is business and farm management practices for the main types of farming: corn, cattle raising, and hog raising are discussed at length with shorter discussions of other types of farming and crops. Record-keeping is emphasized and sample forms are included. The author is faculty member of Iowa State College.

RECK, FRANKLIN MERING

The 4-H story, a history of 4 H club work.
Ames, Iowa. The Iowa State College Press
1951 308 p. illus. 24 cm. \$3.00. 2658

Contents: (Laid out) Years of the nation's pioneers. The government sponsors our club. Corn clubs take hold in the South. Coming clubs get under way. The Cleveland club national. Club work grows in the North and West. Congress passes the Smith-Lever act. Club work with Negroes expands. The national committee is formed. Early days of the club congress. National camp established. 4-H crosses the seas. New legislation for extension. West and the Bushland Pioneer act. Farming up. Bibliography. Index.

Note: The 4-H club, whose origin and development are recounted in this book, have been a major influence in rural life. They have made people for better living and for leadership in rural life. They have reached their widest development in the United States of America. This book is devoted mainly to the U. S. A., but there is some information on comparable organizations in other countries. It is written in simple style and is of potential interest not only to persons directly concerned with the organization and guidance of 4-H clubs but also to persons with more general interests in rural life and agricultural betterment. There is bibliography.

ROY, HARRY BURGESS

Moisture requirements in agriculture. Farm irrigation. New York. McGraw Hill Book Company Inc., 1950 413 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering, Quincy C. Ayres consulting editor) \$6.00. 2659

Contents: General considerations. Sources and disposition of soil moisture. Flow and movement of water. Introduction of irrigation and drainage. Fundamental principles of irrigation and production of agriculture under it. Time of irrigation. Use of water in irrigation. Irrigation methods. Irrigation structures and works for the farm. Pumping in irrigation. Irrigation of specific crops. Irrigation farming. Legislative and administrative features of irrigation. Supplemental irrigation in humid regions. Literature cited. Literature consulted but not specifically cited. Index.

Note: An introductory level textbook work in which particular attention is given to agriculture and farm irrigation in the United States of America west of the Mississippi River. It covers both the engineering and the agricultural phases of the subject. The author explains in elementary terms the hydraulics of mechanical distribution of water within farming areas and on individual farms and contains this explanation with modern soil science. A feature of the book is its detailed presentation of the water requirements of different types of crops as determined by recent experiments and carefully measured and corresponding presentation of the methods whereby these requirements may best be met. The book is suitable both as textbook for college training engineers in agriculture and as practical handbook for farmers, technicians, and engineers directly concerned with problems of irrigation.

VAUGHAN LAWRENCE MOORE AND LOWELL S. HARDIN

Farm work simplification. This publication is jointly sponsored by the Work Simplification Committees of the American Farm Economic Association and the American Society of Agricultural Engineers. New York. John Wiley & Sons Inc., 1949 145 p. illus. 22 cm. \$2.96 2660

Contents: What farm work simplification is. What savings can be made. The principles of effective work. Basic economy of labor. Simplifying handwork. Reducing chore travel. Using equipment and work crews effectively. Principles may be applied to all work. How results may be used. Research in work simplification. How to organize and conduct study. Four types of analysis. Case studies of individual farms. Self-analysis by farmers. Training in work simplification. Short courses for service teams. A sample classroom dramatization. High-school and college instruction. Index.

Note: A short, well-organized book which is devoted primarily to practical ways of simplifying farm work. New methods described are based upon actual experience of persons working in the field at state agricultural colleges.

SOILS AND FERTILIZERS

KELLEY, WALTER PEARSON

Alkali soils: their formation, properties and reclamation. New York. Reinhold Publishing Corporation 1951 176 p. illus. 24 cm. \$5.50 2661

Contents: Introduction. Origin and accumulation of salts in soils. Effects of salts and soils. Soluble salts and exchangeable bases of alkali soils. Formation of sodium carbonate and the evolution of alkali soils. Irrigation in relation to alkali soils. Alkali soils in relation to plant growth. Reclamation of alkali soils. Selected bibliography. Index.

Note: The control of alkalinity in soils is fundamentally chemical problem, and this book deals almost entirely with the chemical aspects. It is of interest to chemists doing laboratory research on the problems of alkalinity and also to soil chemists and agronomists working directly with soil reclamation of irrigated agriculture. The author is Professor Emeritus of Soil Chemistry at the University of California.

KELLOGG, CHARLES EDWIN

Our garden soils. New York. The Macmillan Company 1952 232 p. illus. 22 cm. \$4.00 2662

Contents: Material soils. What plants? The garden needs good shelter. Organic matter: the gardener's chief. Flurry of well-balanced yields. Soil acidity and how to change it. Balancing the plant elements. More about herbs and garden. Starting plants and sowing them. Planning the garden. Appointments. Soil maps. Soils and judgements of selected plants. Planting suggestions and yields of selected vegetables. For further reading. Index.

Note: A handbook about garden soils for the amateur gardener written in an informal language by the Soil Survey Chief of the U. S. Department of Agriculture. The book will be equally useful to those who wish to adapt their soils to certain kinds of plants and to those who wish to know what kinds of plants will grow best on the soils they have. The author tells how to determine soil types, how to make proper amounts of organic matter and nutrients, how to control soil acidity and how to balance plant nutrition. The appendices contain much useful information including lists of soil preferences by groups for vegetables, herbs, small fruits, fruit trees, perennials and annual flowers, shrubs, vines, ground covers, lawns, and lawns.

LYON, THOMAS LYTLETON AND OTHERS

The nature and properties of soils. A college text of edaphology. By T. Lytleton Lyon, Harry O. Buckman, and Nyle C. Brady. Fifth edition. Revised by Harry O. Buckman and Nyle C. Brady. New York. The Macmillan Company 1952 591 p. illus. (part col d) 24 cm. \$5.75 2663

Contents: The soil in perspective. The supply and availability of plant nutrients in natural soils. Some important physical properties of natural soils. Soil conditions that affect and practical significance. The organisms of the soil. The organic matter of natural soils. Forces of soil water. Soil movement and the plant relationships. Vapor losses of soil moisture and their regulation. Liquid losses of soil water and their control. Soil air and soil temperature. The origin, nature, and classification of parent materials. Soil formation, classification and survey. Organic soils—nature, properties, and utilization. The soil reaction, soil acidity and alkalinity. Lines and

limnology. The book replaces two other works by the author, *Principles of soil microbiology* second edition, Baltimore, 1932 and *The soil and the microbe*, New York, 1931, and includes some material that appeared in those works. However, no material has been carried over. Much is not still valid, and the greater part of the material in the present title is new. There are 130 figures and 77 tables.

CONSERVATION OF NATURAL RESOURCES

DAVISON VERN ELLBERT

Bobwhites on the rise. With illustrations by Wallace Hughes. New York Charles Scribner's Sons 1949 150 p illus. 24 cm. \$3.75 2669

Contents: Bobwhite and its range. Prevailing problems. Traditional to target. The bobwhite's habitat. Food for the greatest need. Control, in a nutshell. Wildlife land and its management. Woodland management. The place of the bobwhite. Pastures. Idle land. Organized sports. Bobwhite numbers and hunting. The things to do, in quick review. Laws to encourage production. Bibliography.

Notes: "Dedicated to those who hunt the bobwhite quail and to the landowners who alone can grow more of them, this volume for the landowner, the sportsman, and the conservationist, is the first book on the quail and its production in the bobwhite. It shows what practices applied to wildlife lands can lead to conditions favorable to the increase in numbers of this popular game bird. The author writes on the basis of two decades of experience with game management in various sections of the range of the bobwhite quail in the U. S. A."

GABRIELSON IRA NOEL

Wildlife management. New York The Macmillan Company 1951. 274 p. illus. 22 cm. \$4.50. 2670

Contents: The problems of wildlife management. Research in wildlife management. Education in wildlife management. Regulation of human harvest of all populations. Investigation. Refuges in wildlife management. Artificial propagation. Population control. Manipulation of animal environment. Manipulation of environment for specific birds. Sportswoman. Administration and wildlife management. Game hunting and fishing in naturalized lands.

Notes: A thorough study by the Director of the United States Fish and Wildlife Service, of present-day problems in the field of wildlife management and their solution. The author approaches present wildlife management activities, including the various studies over the past half-century and taking into consideration the fact that hunting, gamekeeping, protection, hunting and other activities must continue side by side with the habitat for wild populations. He emphasizes the necessity for balanced progress and particularly the need for periodic checks on projects and practices to be certain they are serving the needs of wildlife. The book is illustrated with photographs and contains bibliographical references at the ends of the chapters.

GOLFÉ, ALFRED R.

Reclamation in the United States. New York McGraw Hill Book Company Inc., 1952 451 p illus. 24 cm. (Civil engineering series, Frederic T Mavis consulting editor) \$8.00 2671

Contents: History of reclamation in the United States. Economics of reclamation. Reclamation law. Participating agencies. Investigation and authorization of proposed projects. Single-purpose projects. Multiple-purpose projects. River-basin development. Allocation of cost. Reclamation by water users. Reclamation by power and other users. Financing the reclamation program. Reclamation cost. Programming and accounting. Settlement. Operation and maintenance. Appendix. Inflation statistics—47 years since 1909-1950. Index.

Notes: A comprehensive work covering reclamation in the United States through historical, scientific, and engineering development of hydroelectric power. Its purpose is two-fold: (1) to provide instruction material for college courses in engineering and economics relating to reclamation and (2) to provide reference material for research or review of the reclamation programs of the United States. Bibliographical references appear at the ends of the

chapters. The author is Director of Programs and Finance in the United States Bureau of Reclamation.

GRANGE WALLACE BYRON

The way to game abundance, with an explanation of game cycles. New York Charles Scribner's Sons 1949 365 p illus. 24 cm. \$6.00 2672

Contents (abridged): Part I. The pattern of life (the biological and environmental background). Patterns of environmental adjustment. The mathematics of abundance. The daily and seasonal activity cycle. Home range, natural resources, habitat. The theory of population. The theory of disease—parasitism. Pest, its plant and animal associates (the nature and heretofore of habitat change). Game range and perennial wilderness. Game range and succession wilderness. The impact of civilization. The natural propagation and principle. Part II. Population cycles (why abundance is necessarily cyclical—mechanisms of population response to habitat change). The cycle nature of predation—predation and the overpopulation cycle. The constant effect of scattered natural propagation units. The explanation of simultaneously of the successive rabbit cycle. Part IV. The technology of game factors (tools, methods and principles of control by man). The control of game cycles. Controlled hunting for sport. Forest cutting for game; forest planting. Cattle—land and soil—water feeding. Aquatic habitats. Reclaiming. Reclaiming. Predator control. Legislative and economic for game factors. The management opportunity index.

Notes: A survey of game conservation and management launched for the hunter or sportsman interested in understanding the causes of game abundance and game scarcity rather than for the research man and administrator in the wildlife management field. Technical notes have been used only where essential. The work is not necessary of other presentations, but an independent work written mainly upon the basis of the author's own observation, research, and field experience. Its conclusions relative to the game cycle have not previously been published.

GREENBERG DAVID BENJAMIN

Raising game birds in captivity. New York D Van Nostrand Company Inc. 1949 224 p. illus. 26 cm \$7.50 2673

Contents: The importance of wild life in nature's scheme of things. The business of game bird production. Game bird classification. Artificial incubation. Artificial brooding. Raising and raising with brooding. The studies and feeding of game birds. Wild chipping, partridge, brooding, etc. Production and their control. Phenomena. The growing pheasant. The story of game pheasant farm. Bobwhite quail. The chicken (chicken) partridge. The Hungarian partridge. The McCarty game for raising pheasants, turkeys, chickens, and Muscovy. Wild ducks. Aquatic game birds. The marketing of game birds. Appendixes. Official organizations concerned with wildlife protection. Publications on game birds. Index.

Notes: A comprehensive illustrated manual on brooding, raising, and selling game birds. The book describes in detail the best methods of incubating, brooding, raising, and marketing the several varieties of game birds. It also covers the equipment needed to raise game birds and includes many plans and drawings for pens, incubators, brooders, etc. The book should be valuable to game breeders and conservation department officials and to others interested in raising game birds, whether for food or for purposes of stocking shooting preserves or gamekeeping lands. Attention is called to the laws of the states of the United States of America governing the marketing of game birds.

MARTIN ALEXANDER CAMPBELL, AND OTHERS

American wildlife & plants, by Alexander C. Martin, Herbert S. Zim, and Arnold L. Nelson. A guide to wildlife food habits the use of trees shrubs, weeds, and herbs by birds and mammals of the United States. Prepared under the direction of the United States Fish and Wildlife Service, Department of the Interior at the Patuxent Research Refuge, Laurel, Maryland. New York McGraw Hill Book Company Inc., 1951 500 p. illus. 23 cm. \$7.50 2674

Contents: Part I, Introductory chapters. The plant roots of wildlife. Farm crops and wildlife. Wildlife feed-habits studies. Interpreting the data of this book. Part II, Animals and their food: Water birds, Mammals and shorebirds. Upland gamebirds, Songbirds. Birds of prey and game mammals. Small mammals. Hatched browners. Fish, amphibians, and reptiles. Part III, Plants useful to wildlife: Woody plants. Upland weeds and herbs. Marsh and aquatic plants. Cultivated plants. Wildlife plants ranked according to their value. Index.

Note: An elementary inclusive reference book for students of bird life, foresters, conservationists, etc. The second part treats the wildlife of the United States group by group, giving data on their habits, ranges, habits, and economics. About half page is devoted to each principal species of bird or animal. For most species the data given include common name, scientific name, range, general description, both natural food and plant food, white list of plants eaten in special localities, and an animal-plant food table diagram showing the seasonal changes in the proportions of plant and animal food eaten. Literature references are given in some cases. The third part of the book denotes the value of different genera of trees, shrubs, weeds, aquatic plants, and cultivated crops to various kinds of wildlife in different parts of the country.

MURIE OLAVS JOHN

The elk of North America. Harrisburg, Pennsylvania. The Stackpole Company, and the Wildlife Management Institute, Washington, D. C. 1951 376 p illus. (cold front.) 23 cm. \$6.50 2675

Contents: Introduction. The name. Origin of the American wapiti. The American forms of elk. Early elk distribution in America. Elk habitat. Life zones. Migration. Physical characters. Reproduction. Natural enemies. Accidental deaths. Parasites. Diseases. Voted opinions on the elk problem. Food habits. Elk habits. The elk population. Elk hunting. Elk management. Bibliography. Index.

Note: A comprehensive treatise written on the basis of many years of field study among the Yellowstone elk herds and checked by field studies on all other major elk herds. It is one of a series of books on practical wildlife management published by the Wildlife Management Institute. The book is of particular interest to persons concerned with wildlife management and conservation and is also a source of information for the general reader.

PARKS WILLIAM ROBERT

Soil conservation districts in action. Ames, Iowa. The Iowa State College Press 1952 242 p. illus. 24 cm. \$3.50 2676

Contents: Background of the soil conservation district. Nature of the soil conservation district. Choosing local districts into national conservation programs. Role of district supervisors. Increasing supervisory role in district administration. Value of district in achieving soil conservation. Future of the soil conservation districts. Appendix. Index.

Note: In the United States of America the soil conservation district is legally independent but of local government which works in cooperation with and usually under the technical direction of the soil conservation agency of the national government. The purpose of local soil conservation districts is to organize and to carry out such soil conservation techniques as terracing, construction of waterways, and reforestation. This book presents an outline of the history of such districts and through survey of their experience over a period of 15 years there is some emphasis on the legal and management aspects, but accomplishments are also described.

PATERSON ROBERT L.

The sage grouse in Wyoming. Sketches by Charles W. Schwartz. Denver Colo. Sage Books Inc. 1952 341 p illus. 24 cm. \$5.00 2677

Contents: (abridged) Part I, The sage grouse and its environment. Part II, The natural history of sage grouse populations. Part III, Sage grouse and its man. Part IV, Restoration and management. Part V, Appendix. Literature cited. Index.

Note: A comprehensive study from the conservation standpoint of the sage grouse (also commonly called sage hen). There are populations. It was sponsored by the Game and Fish Commission of Wyoming, and most of the work was done within the boundaries of that state. However, the results of the study are applicable to the sage grouse throughout its natural range and some of the findings are generally applicable to the conservation of other game birds.

Covered are not only the expected points such as the effects of disease and predation, but also critical discussions of land reclamation programs which involve destruction of the natural squirrel habitat.

SMITH, GUY HAROLD, editor

Conservation of natural resources. Third edition. New York. John Wiley & Sons, Inc. 1950 552 p. illus. 25 cm. \$6.00 2678

Contents: The development of conservation in America, by A. J. Wright. The public domain and its disposal, by E. E. Visher. The great soil groups and their utilization, by L. A. Walling. Soil conservation, by W. A. Ritchie. Tree crops, by J. R. Smith. American irrigation, by R. H. Brown. Grazingland resources, by H. C. Hanson and W. C. Williams. Reclamation of wet and over-looked lands, by G. J. Miller. The agricultural prospect, by G. H. Smith. Our forest resources, by O. D. Diller. The practice of forest conservation, by O. D. Diller. Water supply for domestic and industrial use, by J. H. Garfield. Water power and its conservation, by G. H. Smith. Our waterways and their utilization, by E. J. Farrow. Floods and flood control, by G. H. Smith. Conservation in the mineral kingdom, by W. M. Myers. The mineral fuels, by E. W. Miller. Conservation of wildlife, by C. A. Dumbach. Fisheries for the future, by R. H. Martin. Reclamation resources, by E. C. Probst. The conservation of man, by K. Huntington. State and local planning, by L. Drenth. National planning and the conservation of resources, by G. H. Smith. Index.

Note: (4165) A new and revised edition of text-book which covers the entire field of conservation in a manner to interest the general reader as well as the college student. Also new content appear among the contributors to this edition. The book relates the general achievement and organization of the earlier editions, but most of the chapters have been rewritten. Large number of illustrations have been added, and the entire make-up modernized.

THOMAS, HAROLD EDGAR

The conservation of ground water. A survey of the present ground water situation in the United States. Sponsored by The Conservation Foundation. New York. McGraw Hill Book Company Inc., 1951 327 p. 24 cm. \$6.50 2679

Contents: Introduction. Hydrologic principles and basic data. Problems resulting from ground water development and use. Ground-water problems resulting from land reclamation. Our increasing requirements for water. Current deficiencies and future needs for effective ground water development. Better ground-water management, by Alvin Weiss. Appendixes: Passage from major ground-water reservoirs in order of magnitude. Index of location. Selected bibliography of ground-water studies. Subject index.

Note: An authoritative study particularly applicable to the United States of America, of current and probable future demands for water. The problems that arise when too much water is pumped from underground reservoirs, and means of conserving and replenishing underground waters. Included are many case histories of ground-water resource exploitation. Related aspects such as the pollution of underground water by sewage and chemical wastes are covered. The author argues strongly for government management of important ground-water reservoirs.

WING LEONARD WILLIAM

Practice of wildlife conservation. New York. John Wiley & Sons, Inc. 1951 412 p. illus. 24 cm. \$5.50 2680

Contents: Conservation and management. The biological base of management. Techniques of field investigations and practice. Part game and its management. Farm game birds and mammals. Forest and forest wildlife management. Game birds of the forest. Forest game mammal management. Game management in the open range. Species wildlife species. Mammal wildlife. Fur-bearing management. Wildlife management. Lake fish management and management. Stream improvement and management. Stream and game conservation and management. Treatment of water. Game and persecuted species. State powers and controls. Federal wildlife controls in the United States. Provincial and federal wildlife policies in Canada. Administration and reforestation. Index.

Note: The chapter headings indicate the detailed subject content of this book on wildlife conservation and game management. The author has written on the basis of experience in various parts of North America. The book is especially suited for instruction in

the college level, and it will be of interest and use also to the general reader who wishes to be informed on wildlife conservation and to the professional conservationist who needs reference work covering the entire field of conservation theory and practice.

YOCOM CHARLES FREDERICK

Waterfowl and their food plants in Washington. Seattle Wash. University of Washington Press, 1951 272 p. illus. 24 cm. \$5.00
2681

Contents (abridged) Waterfowl and their status in Washington. Waterfowl that winter in Washington and their relative abundance. Survey of nesting and tramping waterfowl in eastern Washington, seasons 1947 and 1948. Band studies. Migration. Waterfowl and their relationship to hunting, fur and game. Management. The important food and cover plants for waterfowl in Washington: Typhaceae, Sparganiaceae, Potamogetonaceae, Juncaceae, Alismaceae, Hydrocharitaceae, Gramineae, Cyperaceae, Lemnaceae, Polygalaceae, Compositaceae, Coriariaceae, Nymphaeaceae, Ranunculaceae, Cruciferae, Haloragaceae, Lamiaceae, Scrophulariaceae. Literature cited. Subject index. Plant and cover food index.

Note: This is a study based upon field observations, of the wild areas, ponds and ditches of the state of Washington with special attention to their food habits and to the active aquatic food plants and their distribution within the State. The expressed objective of the publication is to lay the groundwork for future research. Systematic descriptions are given of the distribution of 41 species of waterfowl. Descriptions, drawings, keys, and distribution maps of 116 species of cover and food plants utilized by the fowl are included. Many literature references are cited.

FARM MACHINERY AND BUILDINGS

BARBER, EDGAR LEE, AND OTHERS

Tractors and their power units. By R. L. Barber W. M. Carleton E. G. McKibben and Roy Balmer New York John Wiley & Sons, Inc., 1952 496 p. illus. 23 cm. \$6.50
2682

Contents (abridged) History and development of the tractor. Power and power measurement. Thermodynamic principles of internal combustion engines. Tractor fuels. Cylinders and fuel injection systems. Ignition systems. Engine cooling systems. Lubrication and lubrication systems. Dirt exclusion. Overhauls. Engine types and development. Design features of the tractor engine. Operator's comfort, convenience, and safety. Brakes. Clutches and brakes. Transmission, differential, and final drive. Traction and traction devices. Tractor tests and performance. Tractor maintenance and repair. Tractor power and performance. Appendix. Index of authors. Index of subjects.

Note: A text written from the engineering viewpoint. It applies particularly to farm tractors but much of the material is applicable also to larger machines such as are used in construction. The material is not limited to major aspects such as are named in the chapter titles but includes also discussions of such points as tractor stability. The book is intended for students enrolled in agricultural engineering colleges, but it contains material of value to anyone concerned with the selection or design of tractors. Lists of references to related literature are included.

HARRE, HENRY JOHN AND L. L. SAMMET

Farm structures. New York John Wiley & Sons, Inc. 1950 650 p. illus. 23 cm. \$7.00
2683

Contents (abridged) Materials and methods of new wood, concrete masonry. Types of structural frames. Heat and heat transfer. Air water vapor mixtures. Heat flow through walls—insulation. Temperature gradient—conduction in walls. Physiological reactions of animals to ambient temperatures and relative humidity. Dairy buildings. Poultry houses. Principles of crop and feed preservation and storage. Storage of fruit and vegetable crops. Storage of grains. Farm barns. Farming construction units. Building and farmstead planning for maximum efficiency. Introduction to structural design. Estimating loads. Stress analysis. Design for rural housing. Roofs. Connections. Appendix. Index.

Note: A book on the engineering of farm structures rather than on their planning and building. It covers general methods in structural analysis and design to the problems encountered by architects

or agricultural engineers in designing farm buildings. Standard building materials are covered as well. Some material on floor plans and layouts is included, but there have been no attempts to cover these aspects of the subject fully. The book is intended primarily for students of agricultural engineering, but it is quite suitable also as a reference manual.

JOHNSON ELMER JOHN AND ALVIN H. HOLLENBERG

Servicing and maintaining farm tractors. New York McGraw Hill Book Company Inc., 1950 313 p. illus. 24 cm. (McGraw Hill rural activities series, W. A. Ross, consulting editor) \$4.50
2684

Contents Settles up servicing and maintenance program. Operating tractor safely. Applying tractor power to farming. Lubricating the chassis and accessories. Lubricating the engine. Lubricating and servicing the transmission and final drive. Servicing oil cleaners. Maintaining the tractor electrical system. Selecting and using tools. Servicing and adjusting the carburetor and fuel system. Servicing the cooling system. Servicing, adjusting, and repairing tractor tires. Locating tractor troubles and making minor repairs. Preparing the tractor for winter use. Chocking, painting, and storing farm tractors. Appendix: Some essential tools and equipment for servicing and maintaining the farm tractor. Some essential supplies for servicing the farm tractor. References. Definitions of terms used. Index.

Note: An illustrated manual of detailed directions. It is addressed to farmers rather than to mechanics who repair tractors. The various types of farm tractors from the small two-wheel garden models up to the crawler or track-laying tractors are covered. Directions for major repair operations are not included; instead, the space is devoted to the minor repairs and maintenance operations appropriate to the average farm.

JONES FRED R.

Farm gas engines and tractors. Third edition. New York McGraw Hill Book Company Inc., 1952 489 p. illus. 24 cm. (McGraw Hill publications in agricultural engineering, Quincy C. Ayres, consulting editor) \$6.00
2685

Contents (abridged) Farm power sources and adaptability. History and development of the internal-combustion engine and farm tractor. Types of farm tractors. Thermodynamic principles and applications—engine cycles and efficiencies. Tractor-engine types and construction. Valves and valve operation. Piston and combustion. Fuel supply and carburetor systems. Air cleaners. Cooling and cooling systems. Governing and governing systems. Ignition methods—fundamentals of electric ignition. Storage cells and batteries. Diesel-engine construction and operation. Electric power—electric lighting. Lubricants and lubrication systems. Tractor chassis. Tractor transmissions and accessories. Tractor chassis—traction device—power-take-off—steering mechanisms. Tractor power units—mechanical power units. Tractor chassis and final operation. Gasoline and tractor servicing and maintenance. Economics of tractor utilization. Materials of construction—power transmissions. Appendix. Index.

Note: An up-to-date textbook which is useful not only to agricultural college courses, but also as a practical manual for mechanics and service men, and for owners and operators of tractors. It is illustrated with 415 photographs and drawings and 41 tables, and each chapter is concluded with bibliographical references. For the third edition the author has completely revised a large part of the subject matter. A chapter has been added on basic thermodynamics and its application to heat engine design. Much new development on the use of L.P. gas as a tractor fuel, hydraulic transmissions, and hydraulic controls are clearly presented. The illustrations have also been revised.

MOSES BEN DUNCAN AND KENNETH R. FROST

Farm power New York John Wiley & Sons, Inc. 1952 484 p. illus. 24 cm. \$5.75
2686

Contents (abridged) Part I, Relation of farm power to agriculture. Farm power development and utilization. Part II, Internal-combustion engines: Internal-combustion engine principles. Valve

Schneider. Plant hormones and other regulatory factors, by J. van Overbeek. Part IV. Amino acid chemistry: Amino acid metabolism—general features, by R. H. Schneider. Digestive processes, by R. H. Schneider. Energy metabolism, by L. Varo. Carbohydrate metabolism, by M. E. Kohl. Lipid metabolism, by J. R. Brown. Protein metabolism, by G. H. Pridmore. Absorption and utilization of inorganic substances, by J. K. Loomis. The vitamins, by M. B. Overman. Part V. Soil chemistry: The minerals of the soil, by C. D. Jeffrey. Colloids of the soil, by E. A. Hamer. Soil organic matter, by J. E. Davies. Subject index. Volume two, Practical applications of agricultural chemistry: Part I, Chemistry of major agricultural products: The chemistry of seed and cereal crops, by V. H. Morris. The chemistry of fruit and vegetable crops, by H. W. van Lemmelen and E. L. Kars. The chemistry of forage crops, by J. T. Salinas. The chemistry of meat and most products, by R. C. Miller. The chemistry of milk and dairy products, by H. H. Johnson. The chemistry of eggs and poultry products, by R. M. Conrad. Part II, Fertilizers and soil amendments: Nitrogenous fertilizers, by E. F. Thorne. Potassium fertilizers, by J. D. Ransome. Phosphate fertilizers, by C. A. Black and W. H. Parry. Altered fertilizers, by E. F. Thorne. Liming materials, by A. C. Richer. Minor element supplements, by R. R. Parry. Part III, Nutrition of farm animals: The nutrition of dairy cattle, by R. E. Smith. The nutrition of beef cattle, by H. E. Collett. The nutrition of horses and mules, by F. R. Pearson and C. F. Winchester. The nutrition of sheep and goats, by F. R. Pearson. The nutrition of poultry, by H. W. Thum. The nutrition of swine, by R. C. Miller. The nutrition of domestic and fur-bearing animals, by R. H. Schneider. Part IV, Pesticides: Insecticides, by D. E. Pratt. Fungicides, by D. E. Pratt. Herbicides, by D. E. Pratt. Part V, Commercial agricultural chemistry: Insecticides and pesticides relating to agricultural chemistry, by C. W. Riven and A. D. Cress. Commercial applications of agricultural products, by J. E. Chapman. Subject index.

Notes: A comprehensive survey of agricultural chemistry is presented in this work. Each of the chapters discusses in some detail the chemical aspects of some phase of the growing or processing of plants and animals of agricultural importance. Covering each chapter is bibliography of references. The work is especially suitable for reference use by such readers as (1) university professors in the various branches of agricultural chemistry, (2) county agents, extension workers, and business men who need a working knowledge of such subjects as fertilizers and insecticides, and (3) research investigators in the agricultural sciences who need information on subjects bordering on their own specialties. The volumes can be used independently of one another.

HUNGER SIGNS IN CROPS a symposium. Prepared by Firman E. Bear [and others]. Revised edition. Washington: The American Society of Agronomy and The National Fertilizer Association, 1949. 390 p. illus. (part col d) 26 cm. \$4.50 2692

Contents: Why do plants starve? by G. D. Saxena and M. J. Peck. Plant-nitrogen deficiency in tobacco, by J. E. McIlwain. J. Deficiency symptoms of corn and small grains, by G. W. Reider and R. A. Knecht. Plant-nitrogen deficiency symptoms in the potato, by H. A. Jones and others. Plant-nitrogen deficiency symptoms in citrus, by H. P. Cooper and L. Donald. Plant-nitrogen deficiency in muscadine and table grapes, by J. J. Shiner and R. J. Perry. Nutrient deficiency symptoms in deciduous fruits, by G. W. Davidson and W. F. Jacobs. Plant-nitrogen deficiency symptoms in legumes, by W. L. Nelson and F. E. Bear. Symptoms of citrus malnutrition, by A. F. Camp and others. Appendix. Index.

Notes: (741a) The symptoms and effects of deficiencies in soil nutrients that are essential to plant growth are described in this valuable work. A clearly written text supplemented by 108 illustrations reproduced in black and white and 174 plates in color. Though written by eminent specialists in plant nutrition, the book is addressed primarily to persons with practical interests such as agricultural extension workers, chemists in the fertilizer industry and cropable farmers. The chapter titles are the same as in the first edition, but there has been much revision and most of the chapters are now signed with the names of an additional contributor.

UNITED STATES ATOMIC ENERGY COMMISSION

Some applications of atomic energy in plant science. Washington, D. C. Government Printing Office, 1952. 211 p. illus. 23 cm. Paper \$0.50 2693

Contents (abridged): Part one, Major activities in atomic energy programs, July-December 1951. Part two, Condensed AEC annual annual report, fiscal year 1951. Part three, Atomic energy and its applications in plant science. Effects of radiation on plants—ionizing radiation and plant development. Effects of moderate radiation. Handling atomic energy waste. Biochemical effects of radiation. Radiation and plant genetics. Plant research with isotope. Efficient use of fertilizers. Biological sources of plant nutrients. Movement of minerals in plants. Tracer research on trees. Studies of crop pests. Photosynthesis and biogeochemistry. Biogeochemistry of tagged compounds. Appendixes.

Note: The eleventh semiannual report of the Atomic Energy Commission reviewing major developments of the second half of 1951 that can be publicly divulged without hazard to national security together with the AEC financial report for fiscal 1951 is combined in this publication with detailed review of developments in plant science research supported by the AEC.

ECONOMIC BOTANY

HILL, ALBERT FREDERICK

Economic botany a textbook of useful plants and plant products. Second edition. New York: McGraw-Hill Book Company, Inc., 1952. 560 p. illus. 24 cm. (McGraw-Hill publications in the botanical sciences. Edmund W. Sinnott, consulting editor) \$7.00 2694

Contents (abridged): Introduction. The importance and history of plant products. Industrial plants and plant products: Forest products, wood and bark. Rubber and other latex products. Gums and resins. Essential oils. Fatty oils and waxes. Sugars, starches, and cellulose products. Drug plants and drugs. Food plants: The major cereals. The minor cereal grains. Legumes and roots. Vegetables. Fruits of temperate regions. Tropical fruits. Food adjuncts. Spices and other aromatic materials. Beverage plants and beverages. Appendix: Bibliography. Index.

Notes: (480) An introductory survey of the commercial products derived from plants. It is designed for use as a textbook but it serves equally well as a reference book. In each chapter and subject literature it is used to supply general information on such plant products as cherry, pear, pine, apple, hickory, and so on. Though it is limited to books published since 1934, the bibliography is helpful. In this volume there is list amount of new material including discussions of 140 additional species. There are 250 figures, most of which are reproductions of photographs.

KLOSE, NELSON

America's crop heritage the history of foreign plant introduction by the Federal Government. Ames: The Iowa State College Press, 1950. 156 p. illus. 24 cm. \$3.50 2695

Contents: Early American agriculture. Search for new crops, 1770-1840. Federal promotion of crops. Leadership of the Forest Office, 1846-62. The Commissioner, 1862-89. Main importance. Lesser importance. Plant introduction under Rank and Market. Pioneer years. First introduction of the twentieth century. Appendix. Index.

Note: A somewhat informal history of an important activity in the development of agriculture in the U. S. A. As the middle of the century is limited to the efforts of the National Government in introducing and testing new plants. Even within this limitation, the account is rather generalized and only the most prominent men and the most important importations are given much space. However, information is included in the book that had not been readily available to students of the history of agriculture and of the economic development of the U. S. A.

KUMMER, ANNA PEDERSEN

Weed seedlings. Drawings by the author. Chicago: The University of Chicago Press, 1951. 435 p. illus. 21 cm. (The University of Chicago Committee on Publications in Biology and Medicine. Emmet B. Bay and others) \$5.00 2696

Contents: Artificial key to the species and varieties. Illustrations and descriptions of three hundred species and varieties of wood occurring in India.

Results: A practical book for the identification of the seedlings of 300 species that are found growing in gardens, forests, meadows, or woods in the United States and Canada. Providing the illustrations and descriptions is a key to assist in the process of identification. The 300 varieties include all common and serious weeds. The drawings, which are uncolored, show the general aspect and growth habit of the plant, including the roots. For each species there is also set of drawings, in color, the natural size, which show detached seed leaf and the first, third, and fifth leaves. Descriptions include guidelines not shown in the drawings, measurements of the seedlings, and maps and notes on the distribution of each species. Also included are drawings of roots from and taken from identified specimens and, according to new investigative studies, of venation.

ROBBINS WILFRED WILLIAM AND OTHERS

Weed control, a textbook and manual, by Wilfred W Robbins, Alden S Crafts, and Richard N Raynor Second edition. New York McGraw Hill Book Company, Inc., 1952 503 p illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$8 00 2697

Contents. Words and names often. Representation of words. Methods of poisoning the introduction and spread of weeds. Ecology of weeds. Principles of weed control. Tillage methods of weed control. Biological control of weeds. Use of chemicals in weed control. Properties and functions of herbicides. Selective herbicides—alkaloids contact applications. Selective herbicides—alkaloids contact applications—oil. Selective translocation herbicides—alkaloids contact applications—herbicide-like substances. Selective herbicides—translocation. Nonspecific herbicides—alkaloids contact applications. Nonspecific herbicides—translocation. Translocation of compounds. Nonspecific herbicides—application. Application of herbicides. Chemical applications. Equipment for application. Herbicides. Soil weed problems—weeds of grasslands and turf. Soil weed problems—cropped areas. Special weed problems—macrophyte weeds. Special weeds. Appendix. Conventional literature. Research weeds capacities to apply desired number of milions of spores per acre. Cost per unit weight of active ingredient. Chemical and scientific names of weeds used in text. General references. Author index. Subject index.

As a critical review of current knowledge, this book is intended as a text for students of agriculture, colleges, and universities, and as a reference book for practical farmers and agricultural extension workers. It has undergone complete revision to cover such developments since the 1942 edition as the discovery of 2,4-dichlorophenoxyacetic acid as a selective weed killer; the introduction of trichloroacetic acid and sodium, isopropyl phenylcarbamate, and malonic hydrazide, and other types of herbicides; herbicides and improved methods of marketing and application. The new edition includes the latest developments in herbicides, the weeds of the world, the weeds of America, and enlarged sections on specific weeds and control of weeds. The book has been substantially increased in size principally by elimination of 15 illustrative material, the figures, mostly photographs, have been reduced in number from 702 to 481 in the first edition. It is 111

SCHERRY ROBERT W

Plants for man. New York Prentice-Hall, Inc., 1952 564 p. illus. 26 cm. \$10.00 2698

[illegible]

Note. A readable, encyclopedic work on the plants and plant products that are useful to man. It is organized so that it may be used either as an introductory text in secondary biology or as a source of information for general readers. Plants of considerable economic importance are given special pages of space. The value of other importance is described in single paragraphs. The book is generously illustrated and the chapters are accompanied by selected references for supplementary reading. The index is full.

PLANT DISEASES

BARNES, HELEN VIRGINIA, AND JESSIE M. ALLEN compilers

A bibliography of plant pathology in the tropics and in Latin America. Washington, D. C. Government Printing Office, 1951 78 p. 27 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 14) Paper. \$0.40 1699

Contents: Introduction, by Frederick L. Williams. A bibliography of plant pathology in the tropics and in Latin America. Index of names. Index of plant diseases.

Notes. This bibliography follows 1995 references on phytoecology in the tropics and Latin America, covering the years 1957 through 1949. In the preface, the author lists 16 sources containing bibliographies prior to 1957. The arrangement is alphabetical by author, with brief annotations where the titles do not fully indicate the contents and with notes in brackets where he brings together works which contain English translations. A key to the contents is provided by the books in which diversers are grouped under the scientific names of the host plant and cross indexed under the names of the host plants in *Keyfile*, *Phytocross*, and *Species*.

CATION DONALD, AND OTHERS editors

Virus diseases and other disorders with viruslike symptoms of stone fruits in North America. Publication committee: Donald C. Coffey, chairman. Washington, D. C. Government Printing Office, 1951. 276 p. illus. (part col d) 24 cm. (United States. Department of Agriculture. Agriculture handbook 10) \$7.50. 3700

Contents: Introduction. Virus diseases of peach. Virus diseases of sweet cherry. Rough bark of orchard flowering cherry. Virus diseases of apricot. Virus diseases of plum and plum. Ring spot of plum. Transmissible. Deficiency and insect troubles. Diseases. Literature cited. Appendix. Common host-disease index.

Note. This handbook belongs together with the *Handbook of Plant Diseases*. Both have more than 40 known virus diseases affecting some 150 plants in the United States, and also covers certain seedling and nutritional disorders which might be confused with virus diseases. Also, photographic illustrations in black and blue and in color of characteristic symptoms are provided to assist in recognition of the diseases. The chapters are devoted to specific diseases and prepared by specialists or groups of specialists, are grouped by fruit. The following sub-headings occur in typical chapters: some of the names, some of the causal virus, history, geographic distribution, economic importance, host range, symptoms, diagnostic or seasonal characteristics, transmission, inheritance, control, control measures. The publication is useful to plant pathologists, fruit growers, nurserymen, students, and nursery office.

ELLIOTT, CHARLOTTE

Manual of bacterial plant pathogens. Second, entirely revised edition. Waltham, Mass. Chronica Botanica Company 1951 186 p. illus. 27 cm. (Annales cryptogamici et phytopathologici. Volume x. Edited by Frans Verdoorn) \$6.00 2701

Contents: Part 1. Bacterial plant pathogens. Part 2. Bacteria
species reported in the literature from plants but not recognized
as valid plant pathogens. Index of genera and species of plant
fungi. Index of genera and species of bacteria.

Note. A reference book of primary interest to postulated vectors in plant pathology. It is organized in dictionary with the tripartite names of the pathogens arranged alphabetically. The entries for each organism contains variety of information including literature references, concise physical descriptions, behavior in well-known hosts, optimum temperature, thermal death point, host, geographical distribution, and methods of control. The nomenclature adopted in this volume is that of the 1942 edition of Rogers' *Manual of Automonous Insecticides*.

SPRAGUE, RODERICK

Diseases of cereals and grasses in North America (fungi, except smuts and rusts) New York The Ronald Press Company 1950 11 illus. 538 p. 24 cm. \$8.00 2702

Contents: The Fungi: Phycomycetes, Ascomycetes, Basidiomycetes. Fungal Imperfecti: Sphaerophyllales, Microsporales. Miscellaneous. Glossary. Literature cited. Index of (engl. Index of cereal and grass hosts.

Notes: A systematic, descriptive manual designed to aid plant pathologists in the identification of parasitic fungi and the diseases of the grass family caused by them. Sphaerophyllid fungi associated with parasitic fungi are also included. The geographic area covered includes North America, Central America, and Hawaii. The monograph on each species includes technical descriptions of the individual fungus and of disease symptoms caused by the host, range by states and provinces, world distribution, and literature citations. The author is plant pathologist on the staff of the Agricultural Experiment Station of the State College of Washington.

STEVENS, NEIL EVERETT AND RUSSELL B STEVENS

Disease in plants an introduction to agricultural phytopathology Waltham, Mass. Chronica Botanica Company, 1952 219 p. 74 cm. \$4.75 2703

Contents: Plants, plant diseases, and human welfare. The effect of disease on plants. General aspects of plant diseases: Viruses, Bacteria and fungi. Flowering plants, dicotyledons, and insects. Microbial factors, chemical effects, chemical injury. Factors influencing the development of plant diseases. The host. The pathogen. Weather and soil. Insects. Variations and physiological specialization in plant diseases. Introduced hosts and pathogens. Disease control: The economy of disease control. Chemical treatment. Seed treatment. Root treatment—crop rotation. Irrigation—drainage—overwatering. Fighting for disease resistance. Market pathology. Handling plant diseases. Literature cited. Index of names.

Notes: A survey in which the emphasis is on the aspects of plant diseases which are of general interest and applicability. On numerous points, such as the recently developed (unpublished) there is no consensus; on the other hand such aspects as methods of testing hypotheses are adequately described. Descriptions of individual diseases are in general not included, but types of diseases are discussed. The style is condensed. For example the chapter on breaking plants for resistance is disease is only 10 pages long. However it is supplemented by selected bibliography. Social and economic aspects are covered in general and the summary of various large-scale control measures is covered. The work is part of a 12-volume *Manual of the plant sciences*, edited by Tracy Vandeventer.

WALKER, JOHN CHARLES

Plant pathology New York McGraw Hill Book Company Inc., 1950 699 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$8.00. 2704

Contents: History of plant pathology. Microscopic diseases. Bacterial diseases. Diseases caused by phycomycetes. Diseases caused by phycomycetes. Diseases caused by fungi imperfecti. Diseases caused by bacteria. Diseases caused by viruses. Diseases caused by nematodes. Virus diseases. Relation of environment to disease development. Host-parasite interaction. Disease control through resistance and modification. Disease control through protection. Disease control through host resistance. Index.

Notes: An introductory textbook for undergraduate college students of biology and agriculture. The broad principles of the subject are developed from fairly intensive studies of representative diseases. For the most part, however, there is general overview, on account of treatment, and, of course, the disease cycle, natural resistance, and control, and of general and specific resistance. The style is clear and concise and extensive lists of literature citations are included. There are 148 illustrations. The author is Professor of Plant Pathology in the University of Wisconsin.

WESTCOTT, CYNTHIA

Plant disease handbook. New York D Van Nostrand Co., Inc., 1950 746 p. illus. 24 cm. \$8.50. 2705

Contents: Introduction. Garden chemicals and their application. Classification of plant pathogens. Plant diseases and their pathogens. Host plants and their diseases. List of epiphytotic experimental stations. Glossary. Subject bibliography. Index.

Notes: A substantial reference manual. There are two main parts. Plant diseases and their pathogens, about 160 pages in length, furnishes concise and technical descriptions of the diseases. The second main part "Host plants and their diseases," about 160 pages in length, is arranged by plant names with the diseases to which particular plant is susceptible listed under the plant name. The book is more comprehensive than is required by the average home-gardener but it is a valuable reference book for librarians, agricultural extension workers, and advanced amateur gardeners.

INSECT PESTS AND INSECTICIDES
AMERICAN CHEMICAL SOCIETY

Agricultural control chemicals. Collected papers from the Symposium on Economic Pesticides presented before the Division of Agricultural and Food Chemistry of the American Chemical Society at the 115th national meeting in San Francisco March 28 to April 1 1949 and the 116th national meeting in Atlantic City September 18 to 23 1949 Washington D. C. American Chemical Society, 1950 273 p. illus. 24 cm. (American Chemical Society Advances in chemistry series, No. 1) Paper \$2.50 2706

Contents: Objectives and scope, by J. L. St. John. World use of economic pesticides, by S. S. Zisser. Insecticides in agriculture, by S. A. Roberts. Some problems in the use of newer economic pesticides, by G. F. MacLeod. Labeling requirements for insecticides and other economic pesticides under Federal law, by W. G. Rand. Registration and labeling of economic pesticides in California, by A. B. Lousmon. State and municipal health department requirements for use of chemical insecticide sprays, by E. J. Wilson and L. J. Schaefer. Use of residual spray materials in the typical food industry, by E. L. Holmes and L. J. Schaefer. Pharmacology and toxicology of insecticides, by L. W. Hadden and E. G. Bellard. Pharmacology and toxicology of some important economic pesticides, by C. H. Hime. New class insecticides, by H. Wachs and others. Spray residues on food crops and their relation to total food consumption, by E. H. Robinson. Public health aspects of agricultural chemicals, by H. K. Abram. Benefits and hazards of insecticides to public health, by W. J. Hayes, Jr. and E. W. Shuman. The physician's role in the pesticide problem, by S. E. Gentry and J. R. Wilson. Determining new insecticides in agriculture and industry, by H. L. Hallet. Mass-production techniques for production of pesticides, by F. A. Gantner and R. C. Hime. Mass estimation of DDT spray and penetration residues, by F. A. Gantner and M. E. Miller. Microanalysis of insecticide residues in plant and animal tissues, by W. M. Hadden and P. R. Messenger. Toxicity of spray residues of fruits and processed fruits and vegetables, by A. Hadden. Some poisonous residues factors in use of two new organic insecticides, by G. S. Russell and L. R. Gantner. Residue residues on and in the pest of Washington apple, by K. C. Walker. Fruit surface residues of DDT and parathion in harvest, by M. M. Barnes and others. DDT and parathion spray residues on apples, by W. E. Woodhams and J. E. Fisher. Fertilizer residues on soft fruits, apples, and pears, by K. C. Walker. Absorption of DDT and parathion by fruits, by G. E. Carman and others. Removal of DDT and parathion residues from apples, pears, lemons, and oranges, by F. A. Gantner and others. Synthesis and development of pesticides and related compounds, by J. T. Cassidy and others. Organic phosphorus insecticides, by S. A. Hall. Chemistry and toxicity of some organophosphorus insecticides, by W. T. Sumner. Alkaloid-ester phosphorus organic insecticides, aldrin and dieldrin, by R. E. Lister and others. Insecticide toxicity and dehydrochlorination rates of some phosphorus insecticides, by S. J. Cristof. Colorimetric method for estimating small amounts of aldrin, by A. A. Daniels and R. E. Lister. Polarographic determination of DDT in 0.01M hydroxyethyl phosphonate (parathion), by C. V. Brown and F. I. Edwards. Effect of acetic acid on recovery of ethylene disulfide from California soil, by W. J. Hime. Multiple responsibilities of the insecticide chemist, by D. D. Link. Reproduction of the chemist in the development of insecticides, by W. E. Taylor and J. W. Williams. Post-control chemicals in the production of food, by J. S. Thibault. Military characteristics of insecticides, by F. W. Williams, Jr. Development and use of synthetic organic insecticides, by

C. E. Palm. Toxicological investigations by industry by J. H. Fiedler. Toxicological action and metabolic fate of chlordane, by K. F. Stahlman and M. L. Smith. DDT in eggs and tissues of chickens fed varying levels of DDT by M. J. Byrnes and others. DDT in milk and tissues of dairy cows fed DDT-treated alfalfa hay by C. H. Kitchin and others. 2,4-dichlorophenoxyacetic acid (2,4-D) as selective herbicide, by J. H. Quastel. Metabolic products of elemental sulfur 35 applied to insects as an insecticide, by F. M. Turell and M. B. Chervin. Colorimetric determinations of small quantities of 1,1,1-trichloro-2,2-bis(4-methylphenyl)-ethane, by J. D. Forst and E. R. Warrington. In Particular chromatography in analysis of insecticide formulations, by T. H. Harsh. Organic-chemical determinations as measures of insecticide residues in agricultural products, by R. H. Carter and others.

Note: A collection of original papers written by chemists and addressed to professional chemists. Literature references are included for some of the papers.

BAILEY, STANLEY FULLER, AND LESLIE M. SMITH

Handbook of agricultural pest control. New York: Industry Publications, Inc. 1951 191 p. illus. 20 cm. \$3.25 2707

Contents: Introduction. Section I. Chemicals: The agricultural chemicals. Physical and chemical properties. Crystallography. Containers. Formulations and fumigation. Toxicology and residues. Spray and sprayers. Section II. Machines: Spraying machines. Rates of delivery of spray machines. Rates of application for sprays. Dusts and dusting. Aircraft. Section III. Miscellaneous: Reference tables and formulas for pesticide control operations. Hazards. Miscellaneous topics. Tables and formulas. Terms and symbols.

Note: A brief, well-constructed handbook containing up-to-date factual information useful in the use of insecticides, fungicides, weed killers, etc. There are 101 tables in addition to formulas scattered through the text. Trade names of chemicals are included occasionally to clarify the materials designated by chemical names. It is useful book for progressive farmers, agricultural pest control operators, agricultural advisors, and research workers wanting practical guidance in handling, measuring, and applying agricultural chemicals. The authors are Professors of Entomology in the University of California.

BAKER, WILLIAM ALFONSO AND OTHERS

Biological control of the European corn borer in the United States, by W. A. Baker, W. G. Bradley and C. A. Clark. Washington, D. C.: Government Printing Office 1949 185 p. illus. 23 cm. (United States. Department of Agriculture. Technical bulletin no. 983) Paper \$0.50 2708

Contents (abridged): Introduction. Synonymy. Importations. Domestic collections. Laboratory breeding. Storage of parasite material. Emergence. Parasite shipments. Colonization and sampling methods. Identification procedure. Field sampling procedure. Imported parasites in maintenance status in the United States. Imported parasites not known to be established in the United States. Parasite complexes at test points in the United States: Distribution of native hosts by imported parasites. Field status of native parasites. Insect predators. Birds. Domestic summary. Literature cited.

Note: A scientific report by three entomologists of the Bureau of Entomology and Plant Quarantine on the results of investigations conducted between 1919 and 1940 to reduce the losses of field and sweet corn due to the European corn borer. These investigations largely took the form of experiments with the introduction of various European and hymenopterous insects parasitic upon the corn borer. Methods of introduction and colonization of the parasites are described, and figures are tabulated to show results by years, localities, and species of parasites released. Individual attention is given to 25 different imported species of insect parasites. Brief treatment is given to 29 native insect parasites and to insect predators, birds, and diseases or biological methods of control.

BROWN, ANTHONY WILLIAM

Insect control by chemicals. New York: John Wiley & Sons, Inc. 1951 817 p. illus. 22 cm. \$12.50 2709

Contents: Insecticides of the mid-twentieth century and their properties. The structure of organic chemicals and their toxicity to insects. Susceptibility of insects to the entry of poisons. The phar-

macy of poisons for insects. Equipment developed for the application of insecticides. The application of insecticides from aircraft. Toxicity and hazards to man and domestic animals. Toxicity of insecticides to plant growth. Chemical control of insects feeding on plants. Chemical control of insects affecting man and animals. Insecticides and the balance of animal populations.

Note: The author has managed to cover practically all aspects of the subject from what is known about the relations between molecular structures and toxicity to comparisons between organic and inorganic in the application of poisons. The plot of the available information is given in all instances, and most practical workers in the field will find it adequate. Literature citations are given for all the important statements in the text. Most of the bibliography appended to the chapters run to several hundred references; hence the book can be used also as a guide to the literature.

EBELING, WALTER

Subtropical entomology. San Francisco: Lithotype Process Co., 1950 747 p. illus. 28 cm. \$7.50 2710

Contents: Origin and scope of applied entomology. Morphology and metamorphosis. Classification. The orders of insects. Orientation and legislation in entomology. Artificial control. Insecticides used primarily as stomach poisons. Surface contact. Insecticides of plant origin. Chlorinated hydrocarbons. Organic phosphates. Miscellaneous organic insecticides. Spray oils. Fungicides. Orchard fumigation. Equipment for application of insecticides. Experimental design. Equipment for application of insecticides. Control. Corn pests. Signs and evaluation of treatment. Biological control. Corn pests. Corn pests of foreign countries. Grape pests. Walnut pests. Almond pests. Peach pests. Fig pests. Olive pests. Avocado pests. Date pests. Pests of major subtropical fruits. Literature cited. Index.

Note: About half of the space of this comprehensive work is devoted to background principles and to general information about insects, and the other half is devoted to descriptions of the pests (and their control) of specific fruits. The two chapters on corn pests are the longest in the book. Control methods are described as explicitly and concisely as possible. Insecticides are taken into account. The book is based on teaching experience at the University of California, and is intended primarily for the use of students of applied entomology. It is useful also as a reference book. There are 570 figures and bibliography of 1037 citations.

FENTON, FREDERICK AZEL

Field crop insects. New York: The Macmillan Company 1952 405 p. illus. 22 cm. \$5.75 2711

Contents: Introduction. Insect abundance and distribution. Insect biology. Insecticides. The application of insecticides. Crop surveys and control by insecticides. Physical and mechanical control. Cultural control. Biological control. Plant quarantine and pest control. Leaf and plant destroying insects. The sucking insects. Fruit feeding insects. Soil inhabiting insects. Burrow and other internal feeding insects. Feeders on floral parts and seeds. Feeds on broken seeds and farmstead material. Index.

Note: A general introductory treatment designed mainly for use in agricultural colleges courses. It covers both insects that attack the growing crops in the field and those that attack storage grains. The descriptions of harmful insects occupy more than half of the book, but they include not only biological information but also specific discussions of methods of control. The author is Professor of Entomology in Oklahoma Agricultural and Mechanical College.

HOUGH, WALTER SENEFF, AND A. FREEMAN MASON

Spraying, dusting and fumigating of plants. Principles and applications. Revised edition. New York: The Macmillan Company 1951 726 p. illus. 22 cm. \$12.50 2712

Contents: Part I. Principles: Development of pest control on plants. Insecticides. Fungicides. Miscellaneous spray apparatuses. Pesticides, and compatibility. Spraying and dusting machines. Construction and operation of spraying and dusting equipment. Application. Soil treatment for control of insects, diseases, and weeds. Growth regulators. Herbicides. Bird treatment. Part II. Application: Orchard-trait troubles. Bush-trait and strawberry troubles. Grape troubles. Cranberry troubles. Citrus troubles. Vegetable and truck-crop troubles. Cotton troubles. Tobacco troubles. General insect feeders. Pulse pests. Appendix. Index of authors. Index of subjects.

Note: A comprehensive volume on the control of plant pests, diseases and weeds, in the United States and Canada. It has been completely rewritten from the original edition of 1933. In the first part up-to-date information is presented on all phases of the subject, including equipment, chemical compounds, and methods of application. Part two contains brief descriptions of diseases and destructive insects, with keys for diagnosis and discussions of best control methods. The book contains many illustrations, charts, and formulas, and has bibliographical references in insecticides. It is practical book which has particular value as reference work for persons growing fruits and vegetables commercially and for persons working at agricultural experiment stations.

METCALF CLELL LEE, AND W. P. FLINT

Destructive and useful insects: their habits and control. By C. L. Metcalf and W. P. Flint. Revised by R. L. Metcalf. Third edition. New York: McGraw Hill Book Company Inc., 1951. 1071 p. illus. 24 cm. (McGraw-Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$10.00 2713

Contents: Insects as enemies of man. The value of insects to man. The natural morphology of insects. The internal anatomy and physiology of insects. The social life of insects. Development and metamorphosis. The place of insects in the natural kingdom. The orders of insects. Insect control. Appendices for applying insecticides. Insects injurious to corn. Insects injurious to small grains. Insects injurious to legumes. Cotton insects. Tobacco insects. Insects injurious to vegetable gardens and truck crops. Insects injurious to deciduous fruits and bush fruits. Citrus insects. Insects attacking shade trees and shrubs. Insect pests of greenhouse plants and the flower garden. Household insects and pests of stored grain, seeds, and animal products. Insects injurious to domestic animals. Insects that attack and annoy man and affect his health. Index.

Note: (5444) A thorough treatment of principles and practice in controlling insects which is used both in text in college courses and as a reference manual and guide for agricultural extension workers, teachers, fruit growers, etc. The preceding edition was published in 1938. For this edition parts of the book were entirely rewritten and other parts were substantially revised and augmented. The chapter on insect control, increased 40% in length, now contains descriptions including structural features of more than 190 substances used in the control of insects. The chapter on appendices for applying insecticides has been completely reworked and new descriptions of the latest types of equipment have been added. Literature lists have been revised to include the recent literature. There are now 134 figures.

PAINTER, REGINALD HENRY

Insect resistance in crop plants. New York: The Macmillan Company 1951. 520 p. illus. 22 cm. \$9.50 2714

Contents: Introduction. The mechanisms of resistance. Factors that affect the expression of the resistance of resistance. Resistance to insects in wheat. Resistance to insects in corn. Resistance to insects in cotton. Resistance to insects in soybeans. Resistance to insects in potatoes. Methods and problems in breeding for resistance to insects in crop plants. Selected supplementary bibliography. Index.

Note: This book is a comprehensive survey and digest of the published literature pertaining to the control of injurious insects by growing resistant and varieties of crop plants that have high degrees of resistance to insect attack. Numerous examples of such resistance are known and the literature is voluminous. The author has summarized it under the headings noted above and has included references in the source articles. The specially titled "Selected supplementary bibliography" is supplementary to the extensive bibliography appended to the chapters. The author has been the head of a comprehensive study of insect resistance in crop plants at the Kansas Agricultural Experiment Station since 1916.

PRYNNSON LOUIS L.

Elements of plant protection. With line drawings by Emily B. Steffens. New York: John Wiley & Sons, Inc., 1951. 538 p. illus. 21 cm. (Wiley farm series) \$4.96 2715

Contents: (abridged) The external and internal structure of insects. The seasonal life history of insects. The relationship of insects to other organisms. Invertebrates other than insects harmful to plants. The chemical control of insects: the stomach poisons—the contact and systemic insecticides—fungicides and spray supplements—the new synthetic organic insecticides. Mammals and birds injurious to agriculture. Control of vertebrate animal pests. Plant diseases. Causes of plant diseases. The natural life history of pathogens. Viruses and phytoplasmas as the cause of plant diseases. The control of plant diseases. Plant treatments for disease control. Weeds. The reproduction of weeds. The elements of weed control. Chemical methods of weed control. Selective herbicides. Selective herbicides other than 2,4-D. Pre-emergence and post-emergence weed control. Application equipment. Selection, care, and maintenance of application equipment. Appendix: Selected reference books. Glossary. Index.

Note: Brought together in this book is a large fund of information on all types of plant pests, including insects, disease-producing organisms, rodents, birds, and weeds; the major pests and their control are well covered, but the author did not attempt encyclopedic treatment of all pests and all control measures. There are 50 tables and 216 drawings and photographs. The book is adaptable for introductory courses in economic entomology, plant pathology or weed control. While primarily intended for classroom use, the book is useful also in practical agricultural pursuits.

SHEPARD HAROLD HENRY

The chemistry and action of insecticides. New York: McGraw Hill Book Company, Inc., 1951. 504 p. illus. 24 cm. \$7.50 2716

Contents: Introduction. Chemical compounds. Physical compounds. Solids and their compounds. Copper compounds. Miscellaneous inorganic and semi-organic substances. Plant products: alkaloids and other alkaloids. Pyrethrins, rotenone, and miscellaneous plant insecticides. Petroleum, animal and vegetable oils, waxes, resins, tars, and resins. Synthetic organic insecticides. The chemical control of insects: general aspects. Relative toxicity and mode of action of insecticides. Atrazine and related compounds. Appendix. Index.

Note: A compact work useful especially in quick reference use in agricultural and technical literature. Insecticides currently of importance are described as to their sources, chemical nature, uses, and toxicity. Special attention is given to toxic effects upon plants and animals. The chapters are essentially summaries of published literature including patents, and references to this literature are given both in the text and in the chapter bibliographies. The author is on the staff of the United States Department of Agriculture.

STEINHAUS EDWARD ARTHUR

Principles of insect pathology. New York: McGraw Hill Book Company, Inc., 1949. 757 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) \$9.50. 2717

Contents: Introduction. Microchemical, physical, and chemical factors. Diseases of arthropods and metazoans. The structural characteristics of healthy insects. Intracellular microbe, infection and cytotoxicology. Resistance and immunity. Symptoms and pathological bacterial infection. Fungus infections. Virus infections. Protozoan infections. Nematode infections. Applied insect pathology and biological control. Author index. Subject index.

Note: An introductory but comprehensive survey of the diseases of insects and of the use of these diseases in an biological control of insect pests. The transmission of diseases to animals and plants by insects is not dealt with. The exposition is simple enough to make the book useful to students who have had basic courses in entomology. On the other hand, each chapter is followed by an extensive bibliography of the related literature. The work is both textbook and reference book, and the fully detailed indexes add to the reference features. The author is Associate Professor of Insect Pathology in the University of California.

UNITED STATES DEPARTMENT OF AGRICULTURE

Insects. [Edited by Alfred Stefferud] Washington, D. C.: Government Printing Office, 1952. 780 p. illus. (part col d) 24 cm. (United States Department of Agriculture. The yearbook of agriculture, 1952) \$2.50. 2718

Contents (abridged) Introducing the insects: How many insects are there? by C. W. Schreyer. Pest insects: by F. M. Carpenter. How insects live, by K. O. Eddy. How insects choose their food plants, by C. T. Brues. How to know an insect: What kind of insect is it? by C. F. W. Muesebeck. How to collect and preserve insects for study, by F. W. Oates. Insects as helpers: Insect friends of man, by F. C. Halsey. Pollination by native insects, by G. K. Pickett. Breeding bees, by O. Mackensen and W. C. Roberts. Insecticides and insect, by F. E. Todd and C. E. McGraw. Insects to control, by J. K. Holloway and C. B. Huffaker. Insects as destroyers: Losses caused by insects, by G. J. Hunsaker. Carriers of human diseases, by F. C. Halsey and C. B. Halsey. Insects and livestock, by E. K. Felt and J. T. Lusher. Insects and the plant viruses, by L. D. Christensen and F. F. Smith. The nature of insecticides: How insecticides are developed, by R. C. Reash. The organic insecticides, by C. V. Brown and S. A. Hall. The inorganic insecticides, by R. H. Carter. Aerial and insecticides, by W. N. Sullivan and others. Applying insecticides: Using insecticides effectively by E. J. Mervenson and others. Research on aerial spraying, by J. E. Tull and others. Machines for applying insecticides, by H. Isaacson and F. Jones. Warnings as to insecticides, by R. D. Rieckert and others. Resistance to insecticides, by V. H. Bennett. Resistance on fruits and vegetables, by B. A. Porter and J. E. Foley. Insecticides and the pure food law, by E. B. Duvall. Resistance to insecticides. Insects are harder to kill, by B. A. Porter. Fungicides: Fungicides on soil and plants, by R. Latta and M. C. Lane. Fungicides on insects, by R. T. Collins. Quarantine: How insects get entry, by R. B. Smith. Quarantine quarantines, by H. J. Cowles. Importance of quarantine, by A. P. Morgan. Other controls: Insects, enemies of insects, by R. D. Rieckert. Parasites and predators, by C. F. Chittenden. Insecticides: Insects, by R. A. Stalham. The vapor-harm process, by A. C. Baker. Cold treatments of insects, by H. B. Richardson. Radiant energy and insects, by A. H. Young. Weather and insects, by E. B. Middle. Resistance crops, the ideal way, by C. M. Packard and J. E. Macfie. Economic entomology: Surveys of insect pests, by G. J. Hunsaker and R. W. Ledy. The insecticide industry, by L. S. Hatcher. The industrial entomologist, by R. M. Smith. Entomology work in entomology, by M. P. Jones. Insects, man, and human health: Insects, by L. S. Hunsaker. Mosquitoes, by H. H. Rigg. Insects on cotton: Progress in research on cotton insects, by C. F. Rieckert. The pink bollworm, by L. F. Carl and R. W. White. Insects and vegetables: Potato aphids, by W. A. Edwards and J. J. Lueders. Sweetpotato weevil, by R. A. Roberts. The pest aphid, by J. E. Duvall and W. C. Cook. The last leafhopper, by J. E. Duvall and W. C. Cook. Insects on fruits: The oriental fruit fly, by W. Carter. The Mexican fruit fly, by P. A. Henslin. The Japanese beetle, by C. H. Hedges and W. E. Frazier. Insects on field crops: Corn and insects, by C. M. Packard. Oenothera, by J. R. Parker. The Mexican cricket, by C. Walsford and J. R. Parker. The chick bug, by C. Walsford. The European corn borer, by W. G. Barclay. Insects that attack flowers and shrubs, by D. J. Colby. Pests on ornamentals: Insect pests of flowers and shrubs, by C. A. Wagon and R. A. St. George. Livestock and insects: Insects on livestock, by W. Eddy. Ticks, lice, sheep ticks, and, by R. F. Kellogg. Scabies, by W. G. Barclay. Cattle grub, by R. W. Latta and I. H. Roberts. Fur, trees, and plants: The spruce budworm, by R. C. Brown. Bark beetles in forests, by J. F. Kees. The spruce sawfly, by J. M. Corbin. Insects and wildlife: Insects and the lower vertebrates, by O. B. Cape. Bibliography and appendix. A selected list of publications, by J. L. Hayes and J. B. Wick.

Note: A cyclopedic work on applied entomology. Agricultural aspects are emphasized but there is also much material on general insects, such as the relation of insects to diseases. Although the drawings are for insects, amateur collectors, and general readers rather than to professionalists. Seventy-two colored plates, each of which illustrates different insect at various stages of its development, are included.

WESTCOTT CYNTHIA

The plant doctor the how why and when of disease and insect control in your garden. Revised edition 1950 with a calendar for the Northeast and special chapters for other sections. Line drawings by the author Philadelphia, New York J B Lippincott Company 1950. 231 p. illus. 21 cm. \$3.00 2719

Contents: The plant doctor's calendar: February, March, April, May, June, July, August, September, October, November. Special chapters on the Middle West, Special chapters on the Northeast, Special chapters on the Southwest, Special chapters on California, Special chapters on the Northwest, Alphabetical index of agricultural experiment stations, Index.

Note: An established reference handbook used by non-commercial producers in the United States of America. It presents considerable range of simple practical information on insecticide application and other control measures. The first edition was limited to the north-eastern United States, but the book now covers the whole nation. However that portion which is arranged by calendar month still refers only to the area around New York City. The alphabetical index is an extensive list of common garden plants with their diseases and descriptions of the preferred treatments. Although of no use to the specialist, the book is handy one for its intended audience.

FIELD AND VEGETABLE CROPS

AHLGREN GILBERT HAROLD

Forage crops. New York McGraw-Hill Book Company, Inc., 1949 418 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) \$5.50 2720

Contents: History and development. Geography and production. Influence of climate and soil. Expansion of alfalfa. Greenhouse alfalfa. Red clover production. Alfalfa clover. Lucerne clover. The sweet clover. The lupulines. The lucerne plant. Symptoms and causes. Crickets on the lucerne, and field crops. Timothy culture. Alfalfa brownworm. Lowland grasses. Orchard grass. Tall fescue, and tall fescue. Prairie hay. Johnson and Bermuda grass. Bahia grass and sorgho. The alfalfa. Cornal hay crops. Identifying the plants. Karyo. Hay seeds. Hay selection. Multiple-purpose alfalfa. Soil-improvement practices. Seedling preparation. Selected seed. Seed placement. Companion crops. Hay standards. Quality production. Growing hay. Overgrazing alfalfa crops. Mating grass alfalfa. Grazing (grazing). Insects and seed. Some important diseases. Plant-breeding contributions. Seed production. Index.

Note: An agricultural college textbook designed as an introduction to the subject. It deals with these grasses and legumes "harvested by men and later fed to livestock." It is of course limited to large crops of some agricultural importance in the United States of America. In general, for each crop, the history of its introduction as forage crop is outlined, its requirements as to soil and climate are described, data are given on yields, on growth content, and on general usage conditions. These topics and other related ones are treated concisely with much of the information contained in tables. However each chapter is supplemented with an adequate list of references. The author is member of the faculty of Rutgers University.

ANDREWS WILLIAM BAKER, editor

Cotton production, marketing and utilization. State College, Mississippi W B Andrews 1950 476 p. illus. 24 cm. \$4.50. 2721

Contents: Skills in cotton production among and within states, and some related factors, 1800-1940, by H. F. Todd. Cotton varieties and breeding, by J. F. O'Kady. The rapeseed of cotton to cotton, by W. B. Andrews. Cotton diseases, by A. L. Smith. Cultural practices, by H. F. Smith. Cotton insect control, by W. P. C. A. Bennett. Harvesting cotton, by H. F. Smith. Cotton ginners, by C. A. Bennett. Warehousing for market, by J. H. Todd. Cotton gin technology, by L. G. Gorden. Cotton cleaning and standardization, by F. L. Gorden. Cotton marketing and marketing of cotton products, by J. F. Budge and others. Uses of cotton and its substitution, by H. B. Evans. World cotton production and trade, by D. S. Mervenson. Cotton, by J. F. Budge. Index of authors. Index of subjects.

Note: The editor of this work is associated with the Mississippi Agricultural Experiment Station, and other contributors are associated with agricultural colleges, the U. S. Department of Agriculture, or with associations such as the National Cottonseed Producers Association. A compact style is used in most of the chapters and wide range of information is presented. Recent developments, such as mechanical cotton picking, are described along with long established techniques. Each chapter is supplemented by useful bibliography.

BANADYGA ALBERT ALEXANDER

Cucumbers for pickles a 1948 survey of literature dealing with their production. Oak Park, Illinois National Pickle Packers Association 1949 276 p. 24 cm. \$3.00. 2722

Contents: Introduction—Importance and distribution of pickle industry. Cultural practices. Diseases. Insects. Flower color. Physiology. Breeding, and genetics. Varieties. Summary. Bibliography—Cucumber references. Appendix: Reports by stations.

Note: In the first part of this book the available information on the culture and breeding of pickle cucumbers is summarized. In the second part the international literature down to 1943 is listed with the most bibliographical details. Although the book contains later material that is valuable to farmers, it is intended more for agricultural extension workers and others who are professionally concerned with the growing of pickle cucumbers. The pickling of cucumbers is not included.

BARNHART, FLOYD

Cotton. Fourth edition second printing. Revised and enlarged. Caruthersville, Mo. The author 1952 390 p. illus. (part col'd) 24 cm. \$3.50. 2723

Contents: The place of cotton. Cotton crop reports. Estimating yield of cotton. Judging and exhibiting cotton stalks and bolls. Elementary cotton marketing. Some factors which lower the grade of cotton. Harvesting cotton. Ginning. Soil, their composition, structure, and classification. Soil, some important factors for fertilization. Fertilizers. Types and varieties of cotton. Selecting, obtaining, and treating plant seed. Preparing soil for planting. Planting cotton. Cultivation of cotton. Structure and development of hands. Cotton insects and their control. Diseases of cotton, by G. M. Weibull. Appendix: Use of genes for Japanese grass control. Recent changes in cotton acreage in the southern states, by H. P. Todd. Line diagram method for the testing of farm implements, by W. E. Mead, and R. B. Karpis. South-Dairy cat. Index.

Note: A practical handbook and textbook which has gone through four editions since it was first published in 1940. It was written especially for use in the vocational agriculture departments of secondary schools throughout the cotton belt of the United States. Organized in the form of a textbook, the chapters on the subject will begin in the left, the chapters are arranged in such manner that those jobs which should be studied in the left appear first. The fourth edition is revised in the following respects: cotton data brought up to 1951; new pictures added; new illustrations, maps, and spray rates presented; state recommendations for insect control changed from those of 1949 to those for 1951; new chapter added, entitled Diseases of cotton.

BROWN HOWARD DEXTER, AND CHESTER S HUTCHISON

Vegetable science. Edited by R. W. Gregory Philadelphia J B Lippincott Company 1949 452 p. illus. 24 cm. \$6.00 2724

Contents: The importance of vegetables. Food value of vegetables. Soil accounts. Vegetable classification. Soils and fertilizers. Green manures. The growth environment. Plant growing and plant-growing structure. Equipment. Irrigation, and drainage. Storage of vegetables. Seed production and plant breeding. Diseases and pest control. Marketing vegetables. Home gardening. The potting. Fruit, berries, and nuts, and herbs. Tomatoes, apples, and peppers. Beans and peas. Cane crops. Potatoes. Crops. Sweet corn and popcorn. Cucurbits or melon crops. Root crops. Grasses. Root crops. Dull crops. Index.

Note: An introductory text which is however sufficiently inclusive and detailed to make it of value to practical farmers. Agricultural practice which concerns the seed and the seed at the same time permit the economical production of vegetable crops are emphasized. One hundred fifty-line figures, the majority of which are reproductions of photographs, 45 tables, and selected lists of literature references supplement the exposition. The authors are members of the faculty of Ohio State University.

HUGHES HAROLD DE MOTT, AND OTHERS

Forages the science of grassland agriculture. Under the editorial authorship of H. D. Hughes, Maurice E. Heath, and Darrel S. Metcalfe. Ames, Iowa The Iowa State College Press, 1951. 724 p. illus. 26 cm. \$6.75 2725

Contents: Part I. Forages and productive agriculture. Forages in the plant kingdom, by H. D. Hughes. What is grassland? by M. E. Heath. Economic aspects of forage production,

by E. O. Heady. Forages and soil conservation, by G. M. Evelyn. Soil fertility and the nutritive value of forages, by R. L. Lervette and W. W. Woodhouse. Forage statistics, by D. S. Metcalfe. Part II. Forage grasses and legumes. The history of grasses and legumes, by D. S. Metcalfe. Legumes and grass seed production, by R. L. Lervette. Forage crop breeding, by L. J. Johnson. The location of forages, by G. M. Heath. Alfalfa, by H. M. Tyndal. Red clover and white clover, by C. F. White. Sweetclover, by C. F. Smith. Ladino and other white clovers, by E. A. Halliday. Lucerne, by C. A. Halliday. Crimson clover, by E. A. Halliday. Red clover, by H. D. Hughes and H. A. MacDonald. The white clover, by R. McKee. Other legumes, by R. McKee. The bluegrass, by E. M. Fagan. The brome grasses, by L. C. Newell and K. L. Anderson. Timothy, by M. W. Evans. Orchardgrass, by W. M. Myers. Bermuda grass, by G. W. Searles. Dallisgrass, Bahiagrass, and Vandy-grass, by H. W. Bennett. Red canarygrass, by M. E. Heath and H. D. Hughes. The fescues, by R. Y. Raloff. The ryegrasses, by H. A. Schuch. Ryegrass and the brome grasses, by J. A. De Fournet. The wheatgrasses, by C. McKee. Johannisgrass, carpetgrass, and other grasses for the humid South, by H. W. Bennett. Other grasses for the North and West, by V. R. Hawk. Cereals as forages, by M. A. Sprague. Sorghums for forage, by R. C. Quibbey and R. C. Sprague. Millets and buckwheat, by W. W. Woodhouse. Rape, bala, and smaller forages, by C. R. Donahue. Part III. Forage production practices. Soil, climate, and use in choosing forage crops, by G. S. Annett. Establishment of new seedlings, by C. J. Wilford. Fertilization of forages, by G. O. Mott. Weed control in forages, by C. J. Wilford. Hay and pasture seedings for the Northwest, by V. G. Sparrow. Hay and pasture seedings for the Central and Lake states, by H. L. Albaugh. Hay and pasture seedings for the humid South, by D. O. Metcalfe. Hay and pasture seedings for the northern Great Plains and intermediate states, by L. C. Newell. Hay and pasture seedings for the southern Great Plains, by R. C. Fatta. Hay and pasture seedings for the Pacific Coast states, by A. L. Halsey. Part IV. Forage utilization. What is quality hay? by G. S. Annett. Mechanization of haymaking and storage, by R. L. Raloff. Grasses grown alone, by C. R. Donahue. Dehydration of forage crops, by R. E. Elmer. Emergency hay and pasture crops, by A. C. Atty. Permanent pastures, by M. A. Heath. Pasture pastures, by D. R. Dodd. Range pastures, by D. A. Savage. Irrigated pastures, by M. L. Peterson. Forages for dairy cattle, by R. E. Hodgson. Utilization of forages with beef cattle, by R. F. Yendelson. Sheep are efficient users of forages, by W. G. Kammling. Forage utilization by hogs, by G. O. Mott. Forage for poultry, by D. C. Krommet. Terminology. Author index. Subject index.

Note: Each of the short chapters in this comprehensive work was written for it by a grass production specialist who is responsible for an unusual authority on the specific range of his chapter. The typical chapter is short but the main facts are always presented and each chapter is supplemented by references in larger treatments in professional periodicals. The book is organized so that it may be used as text in agricultural colleges. However it is also useful reference material for agricultural leaders and others in need of specific information about forage grasses.

MARTIN JOHN HOLMES AND WARREN H. LEONARD

Principles of field crop production. New York The Macmillan Company 1949 1176 p. illus. 22 cm. \$6.50. 2726

Contents (abridged): Part I. General principles of crop production. Crop plants in relation to environment. Botany of crop plants. Crop improvement. Tillage practices. Fertilizer, grass-mowing, and rotation practices. Seeds and seedling. Harvest of field crops. Pastures and pastures. Weeds and their control. Part II. Crops of the grass family. Indian corn or maize. Sorghums. Sweetcorn. Wheat. Rye. Barley. Oats. Rice. Millets. Potatoes. Forage grasses. Part III. Legumes. Alfalfa. Sweetclover. The true clovers. Lucerne. Soybeans. Cowpeas. Field beans. Peas. Mung beans. Chickpeas. Part IV. Cereals of other plant families. Buckwheat. Flax. Cotton. Tobacco. Sugar beets. Potatoes. Miscellaneous industrial crops. Sweetpotatoes. Part V. Appendix: Seedling; seed and plant characteristics. The per cent composition of crop products. Glossary. Index.

Note: An introductory but fully inclusive textbook for use in agricultural courses. Somewhat less than one-third of the space is given to discussions of general principles and practices. The remainder of the space is occupied by descriptions of both seeds and mature crop plants. The discussions of the major plants are fairly brief and are enriched under subheadings such as, economic importance, adaptation, origin and history, botanical description, general description, cultural and harvesting practices, uses, diseases and finally literature references. Crops of lesser importance are discussed somewhat more briefly. The first-named author is under agreement in the Bureau of Plant Industry of the United States Department of Agriculture the named is Professor of Agronomy in Colorado Agricultural and Mechanical College.

ments. An factual information and illustrative material the author presents material which has been found useful in the presentation of the subject at Michigan State College. This edition contains newly added chapters on hormones and on the control of weeds.

HUME, HAROLD HARDRADE

Camellias kinds and culture. New York. The Macmillan Company 1951 271 p. illus. (part col'd) 23 cm. \$6.50 2738

Contents: Camellia geography. Camellia history. Camellia botany. Camellia classification. Japanese camellias. Seasoning varieties. Miscellaneous varieties. Naming camellia varieties. Propagating camellias. Soil and fertility. Pinching camellias. Fertilizing camellias. Culture and care. Pruning and training. Camellias in gardens. Pot and greenhouse culture. Camellia diseases. Insects and mites. Index.

Note: A comprehensive book on the history and classification, kinds and varieties, and propagation and culture of camellias. The author writes in fashion to be helpful to amateur camellia growers and covers all the details of care of the plant necessary to the achievement of success in the raising of this flower. The introductory chapters on the geography history and botany of the camellia cover about 40 pages, the remainder of the volume is about equally divided between the descriptions of the varieties of camellias and the methods of culture. The work is handsomely illustrated with eight plates in full color and many others in black and white.

LAURIE, ALEX. AND VICTOR H. RIES

Floriculture fundamentals and practices. Second edition. New York. McGraw Hill Book Company Inc. 1950 525 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink consulting editor) \$6.00 2739

Contents: How plants grow. Soils. Fertilizers. Floriculture taxonomy. Business culture. Cold frames, hothouses and greenhouses. Garden design. Propagation of plants. Laurus. Annuals. Perennials. Flowering bulbs. The rock garden. Roses. Water gardening. Woody plants. Shrub plants. Direct pots and plant divisions. Greenhouse management. Index.

Note: (2947) A standard work used both as text to agricultural colleges and as manual of practical information by persons with interests in commercial floriculture. The treatment of many topics in this concise book is comprehensive. The treatment of many topics is included, none of it very specific. Bibliographies are included. The greater part of the text is unchanged from that of the first edition published in 1941 but important revisions have been made in some parts as in the discussion of pest control.

LEVISON, JACOB JOSHUA

The home book of trees & shrubs. A complete guide to the design, planting and care of the home grounds, with information on lawns, woodlands, flower borders, garden accessories and the identification of trees. Second edition, completely revised enlarged, and reset. New York. Alfred A. Knopf 1949 524 p. illus. 18 cm. \$10.00. 2740

Contents: What trees can teach us. Structure and habits of trees and shrubs. Types and kinds of trees and shrubs. Planting the home grounds. When and how to plant. Trees and shrubs for every purpose and in every place. The care of trees and shrubs. Pruning, weeding, watering, and tracing. How to control insects and diseases. The selection of trees and shrubs. Common insect pests. Common diseases. The selection of the place. Leaves. Flower borders, lawns, and water gardening. Accidents. How to identify some of the most common trees. Some good looking trees and shrubs. Common names and botanical equivalents. Index.

Note: This guidebook by distinguished authoritatarians in reference and which will serve the homeowner, amateur and professional gardener and landscape designer. A reference book in which trees and shrubs are discussed from the standpoint of their characteristics and uses in the landscaping of gardens and grounds around houses. Its basic purpose is to tell in detail how to select and plant trees and shrubs for the individual's own grounds and how to garden them. It is not a book of general information such as garden literature are discussed briefly. The illustrations include an

various reproductions of photographs and landscapes. Tables and outlines are used to advantage to clarify and summarize.

MUSSEY, HOWARD BURTON

Turf management. A publication of the United States Golf Association. Foreword by James D. Standish, Jr. New York. McGraw Hill Book Company Inc. 1950 354 p. illus. 24 cm. \$7.00. 2741

Contents: Broad relationships in the production of special-purpose turf. Soil and turf relationships. Fertilizers and lime in turf production. Drainage and irrigation. Special-purpose turf grasses. Turf propagation. Turf maintenance. Weed control. Turf diseases and insect damage. Control of insects and other pests. Elements of public-course design. Golf-course operations. Appendix. Index.

Note: This book which is devoted exclusively to the establishment, care, and upkeep of golf turf, public park lawns, and other large areas of turf grasses was prepared under the sponsorship of the United States Golf Association. It is an authoritative presentation of all phases of turfgrass turf development and maintenance with the most up-to-date and complete information. There is no bibliography. The appendix contains lists of fertilizers, liming and weed-control materials, turf weeds, weed-control chemicals, and related information on various grasses. The author is Professor of Agronomy at Pennsylvania State College.

NORTHERN, REBECCA TYSON

Home orchid growing. New York. D. Van Nostrand Company, Inc. 1950. 286 p. illus. 23 cm. \$6.50. 2742

Contents: Orchids as hobby. Adult orchids and their care. The orchid species. Potable. Seedlings from back to community pot. Seedlings from community pot to first bloom. Growing and moving your own seed. The orchid trade; the orchid dealer. The orchid club. The orchid society. The orchid show. The orchid business. The orchid industry. The orchid market. Disposing orchid plants. Raising your orchid. The care and use of cut flowers. Bibliography. Appendix: Key to the tribes and genera of the orchid family. Sources of orchid plants and supplies. Index.

Note: An explicit, practical guide for amateur growers, especially those who wish to grow orchids in their homes and in small greenhouses or non-commercial units. The illustrations include the plants in color and several hundred black-and-white illustrations. The author wife of Henry T. Northern, Professor of Botany in the University of Wyoming, is an orchid amateur grower of orchids.

SIMON, MARON J., AND OTHERS

The complete garden handbook, by Maron J. Simon, John Elliott, Dickson W. Pierce, and Beatrice P. Hendrix. Botanical consultant G. L. Wittroch. New York. D. Van Nostrand Company Inc., 1950. 451 p. illus. (part col'd) 22 cm. \$5.00. 2743

Contents: A planting plan for your property. How to work. Sever garden. Flowering plants for the home garden. Trees, shrubs, and lawns. A small orchard for the home. How to work. Vegetable garden. How to work. Woody plants. Garden paths and other concerns. Flower arrangements. Plants for indoors. Garden soils and drainage. Index.

Note: An inclusive handbook on the growing of flowers, bushes, trees, lawns, fruits, and vegetables for amateur gardeners. Features variety of uses are simple directions, comprehensive coverage from original planning to the art of flower arrangement, emphasis on the practical, and 115 beautiful color plates. Every flowering plant or shrub of importance in gardens in the United States of America is treated in a brief, specific article, with directions for kind of soil, location, planting, culture, and the various best suited to various parts of the country. The final chapter includes outline maps of the United States showing best and planting times, transplanting seasons, weather conditions, etc. A key to the detailed contents of the manual is provided by the index.

WYMAN, DONALD

Trees for American gardens. New York. The Macmillan Company, 1951. 376 p. illus. 24 cm. \$7.50. 2744

and peppers. Cucurbit. The lettuce family. The melon family. Citrus. English peas. Irish potatoes. Sweet potatoes. Tomatoes. Part III, Fruit crops: The apple and pear. The peach. The citrus fruits. The strawberry. Citrus. The peach. The fig. Bramble fruit. The oriental pecanaceous. Tropical fruit. Pines and chestnuts. Blackberries. Part IV Ornamental plants and flowers. Index.

Note. The Head of the Department of Agricultural Education and the Head of the Department of Horticulture of the University of Florida collaborated in the writing of this practical, introductory text. The practices and crops described are those which are useful in the southern states of the United States of America. The book is written in a simple style. Numerous tables are used to summarize information on production, uses, seasons for planting, cultivation, diseases, harvesting of particular crops. Useful lists of government publications of the national and state governments are appended to the chapters.

ROSE, DEAN HUMBOLDT AND OTHERS

Harvesting handling and transportation of citrus fruits. A digest of information on the subject published mostly from 1938 to 1948. By Dean H. Rose, Harold T. Cook, and W. H. Redit. Washington D. C. Government Printing Office, 1951 178 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no 13) Paper \$0.40

2751

Contents: Introduction. Harvesting and handling. Small plots. Harvesting. Processing. Grading. Packaging and packing. Storage. Maturity and quality. Composition. Varieties. Transportation. Post harvest diseases and their control. Diseases and injuries. Detection of insecticide and disease by X-rays and ultraviolet light. Chemical treatments for controlling postharvest decay. Insect damage affecting market quality.

Note. The second publication in a series of digests reviewing and listing the literature concerning the postharvest handling and treatment of important horticultural crops. The publication gives digest of information from recent literature on the biology and care of mature citrus fruit—leaves, buds, sapwood, stem, and branches—and also presents bibliographies, by chapters, of the literature cited, which is extensive.

SHORMAKER, JAMES SHELDON

General horticulture. Philadelphia J. B. Lippincott Company 1952 464 p. Illus. 24 cm. \$6.00

2752

Contents: The horticultural industry. Classification of horticultural plants. Structure of plants. Basic plant processes. Temperature, light, and water. Propagation of horticultural plants. Planting, fruiting, and harvesting. Soil management. Training and pruning. Preservation of horticultural products. Landscape gardening and design. Controlling diseases, insects, and weeds. Index.

Note. An introductory text which is devoted to basic notions such as plant anatomy, plant tropisms, seed production, plant transport, and pruning. These notions are related to horticultural practices, but the book is not a manual of practices. The chapter bibliographies list many specific works which supply the general treatment of each section. The book is profusely illustrated with pictures and easily understood diagrams. The author is Head of the Department of Horticulture of Ontario Agricultural College.

SMOCK, ROBERT MUMFORD AND A. M. NUBERT

Apples and apple products. New York Interscience Publishers, Inc., 1950 486 p. Illus. 22 cm. (Economic crops a series of monographs on the chemistry physiology and technology of food and food products Z. I. Kertesz, editor) \$8.75

2753

Contents: (abstract) History and distribution of the apple. World distribution of apples. Distribution of the apple industry in the United States and Canada. Varieties of apples: Tree characteristics. Fruit characteristics. Development and structure of the apple fruit. Basic environmental and cultural factors affecting the chemical composition and physiology of apples. Chemical changes and physiology of apple fruit after harvest. Transportation (under loss)

Carbohydrates. Acids. Nitrogen compounds. Minerals. Fats, oils, and waxes. Color compounds. Enzymes. Vitamins. Organic reactions from apples. Composition of internal atmosphere of apples. Respiration. Fruit maturity and quality. Postharvest treatments of apples. Cleaning apples. Grading apples. Wrapping and waxing apples. Carbon dioxide treatment of apples. Processing of apples. Storage of apples in fresh state. General considerations of apple products manufacture. Chemical constituents affecting products manufacture. Nutritional value of apples and apple products. Preparation and preservation of apples: Dehydration of fruit, canned, and frozen apples. Apples used for drying, cleaning, and freezing. Preservation. Fruit preparation. Preservation by drying. Preservation by canning. Preservation by freezing. Preservation with chemicals. Apple juice, syrup, and concentrates. Fermentation products of apples. Other Apple wine. Apple brandy. Industrial alcohol. Other lesser Miscellaneous fermentation products. Jelly, butter, and other apple confections. Apple pomace. Compositions. Preservation. Utilization. Appendix. Author Index. Subject Index.

Note: In this treatise the chief emphasis is on the chemistry physiology and processing of the apple fruit after it has been harvested. However certain preharvest aspects which affect the chemistry and physiology after harvest are discussed. The chapters pertaining to storage and to the manufacture of apple products account for more than half of the book length. Much of the information on manufacture has been collected from such sources as patents and articles in journals. There are over 900 literature references.

BEEKEEPING

GROUT ROY A, editor

The hive and the honey bee, a new book on beekeeping to succeed the book "Langstroth on the hive and the honeybee." Edited by R. A. Grout with the collaboration of a staff of specialists. Revised edition. Hamilton, Ill. Dadant & Sons 1949 652 p. Illus. 24 cm. \$4.00

2754

Contents: The beekeeping industry by R. A. Grout. Race of bees, by A. Z. Abshady. The honey-bee colony—Life history by G. W. Park. Acid uses of honey bees, by G. W. Park. The honey-crop, by H. C. Dadant. Beekeeping equipment, by R. C. Dadant. First considerations in keeping bees, by G. H. Cole. The colony by M. G. Dadant. Common practices in beekeeping, by G. H. Cole. Management for increased honey production, by G. H. Cole. Extracting the honey crop, by R. A. Grout. The production of comb honey by C. E. Kilian. The production of protective clothing, by G. L. Farver. Honey by V. G. Allen. Marketing the honey crop, by R. W. Wilson. The honey bee as pollinating agent, by J. I. Hamilton. Sources of nectar and pollen, by F. C. Pfeiffer. The anatomy of the honey bee, by R. E. Snodgrass. Protection and uses of honey, by R. A. Grout. The production of queens and package bees, by M. G. Dadant. Injury to bees by poisons, by J. E. Eckert. Diseases and parasites of the honey bee, by A. F. Swartwout. Index.

Note. A comprehensive manual in which the emphasis is definitely on the practical aspects of beekeeping. It goes back to the comfortable discussion of biological aspects. It goes back to the first edition, published in 1883 of J. L. Langstroth's *Langstroth on the hive and the honeybee*, and includes numerous citations of the classic revised by Langstroth during his lifetime and later by Charles Dadant and C. P. Dadant. In 1948 the first edition in which the chapters were written by a number of contributors appeared; this edition is the first revision of it. In comparison to the 1948 edition there are three new chapters—those by Abshady, Wilson and Hamilton—and extensive corrections have been made in several of the other chapters. There are now 103 figures, and several of the authors have documented their chapters with extensive references to pertinent literature.

KILLION CARL EVEREST

Honey in the comb Paris Illinois Killion & Sons Apiaries, 1951 114 p. Illus. 24 cm. \$3.00

2755

Contents: Comb honey. Chemical. Insects. Comb honey equipment. Colony management. Care and storage of comb honey. Marketing comb honey. Bulk comb honey. Beekeeping records. The future of comb honey. Index.

Note: In this book the author, an experienced apiarist who has specialized in the production of comb honey, covers an aspect of

made extensive use of experimental data from the United States Department of Agriculture and from state agricultural experiment stations. Biographical citations appear at the ends of the chapters. In addition to its use as a text, the book is potentially valuable to use in the business of growing calves or planning to engage in it.

CLAWSON, MARION

The western range livestock industry New York McGraw Hill Book Company, Inc., 1950 401 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) \$5.50 2761

Contents: What is "range"? Range livestock in the nation. Division of the range cattle. Climate of the range region. Pasture in relation to range livestock production. Other natural factors. General economic structure of the range region. Land ownership. Administration of federal range lands. Livestock numbers and production rates. Economic utilization of feed and forage. Range livestock breeding and marketing. General characteristics of ranches. Ranch organization and management principles. Cattle ranches. Sheep ranches. Ranch values and income. Grazing land values and grazing fees. Credit for the range livestock industry. Meat consumption. Geography of meat and animal products. Income from sale of some animals. Competition among meats. Wool. Factors affecting the supply of meat. Range livestock industry in the second World War. Conclusion and look ahead. Index.

Note: An authoritative survey largely from the economic point of view of the industry of raising beef cattle and other domestic animals on the open, unenclosed ranges across the western portion of the United States of America. The term covered is mainly one in which the large majority of native plants and which, because of low rainfall or enough topography is not suitable for other forms of agriculture. The problems discussed relate to the best utilization of the available pasture so as to produce meat and wool in the most profitable way, taking the income viewpoint. The 40 plus illustrations include both graphs on which such economic data are represented and photographs of scenes of the industry. The author is Director of the Bureau of Land Management of the Department of Interior of the United States Government.

DEVON, GEORGE PERCY AND J. L. KRIDER
Raising swine. New York McGraw Hill Book Company Inc., 1952 447 p. illus. 24 cm. (McGraw Hill rural activities series, W. A. Ross, consulting editor) \$4.50 2762

Contents: Engaging in swine raising. Selecting and propagating swine. Keeping and using records. Planning breeding program for swine. Feeding swine. Providing facilities for raising swine. Breeding and caring for swine. Keeping swine healthy. Breeding and improving swine. Marketing swine. Preparing and processing pork for home use. Controlled list of visual aids. Index.

Note: Good practices in the raising of swine under conditions which prevail in the United States of America are described in simple language and in rather full detail in this book. The author emphasizes to the raising and marketing of meat animals. However, the raising of breeding stock is also discussed. The book is suitable for the guidance of young people who are interested in raising hogs as 4-H club occupation and for practical business. It is fully illustrated.

ENSMINGER, M. EUGENE

Animal science Danville, Ill. The Interstate, 1950 1059 p. illus. 23 cm. \$6.00 2763

Contents (abridged): General sections. Some principles of genetics and animal breeding. Feeding livestock. Livestock barns, shelters and equipment. Animal health, disease prevention, and parasite control. Marketing livestock. Meat and animal by-products. Beef cattle. Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual purpose cattle. Breeding beef cattle. Feeding beef cattle. Control marketing and packer slaughtering of cattle and calves. Sheep and goats: Distribution, adaptation, and the future of the sheep industry. Types and breeds of sheep. Systems of sheep production. Control marketing and packer slaughtering of sheep and goats. Wool and mohair. Goats. Swine: History and development of the swine industry. Distribution, adaptation, and the future of the swine industry. Types and breeds of swine. Breeding swine. Feeding swine. Control marketing and packer slaughtering of hogs. Horses and mules. Distribution, adaptation, and the future of the horse and mule industry. Types and classes of light horses according to use. Types and classes of work horses and mules. Breeds of light horses. Breeds of draft horses. Determining the age and height of horses. Breeding horses. Appendix.

Note: A large volume covering all aspects of modern animal husbandry. It is arranged for use as a textbook by agricultural college students and by 4-H and FFA groups. It also is useful to farmers and stockmen as a reference book. The author is Chairman of the Department and Division of Animal Husbandry at the State College of Washington.

ENSMINGER, M. EUGENE

Beef cattle husbandry Danville, Illinois The Interstate 1951 381 p. illus. 24 cm. (Animal agriculture series) \$3.50. 2764

Contents: History and development of the beef cattle industry. Distribution, adaptation, and the future of the beef cattle industry. Types and breeds of beef and dual-purpose cattle. Establishing the herd, selecting and judging beef cattle. Systems of beef production. Breeding beef cattle. Feeding beef cattle. Beef cattle health, disease prevention and parasite control. Control marketing and packer slaughtering of cattle and calves. Selecting, letting and showing beef cattle. Appendix. Index.

Note: A practical text in which some attention is paid to history and economics but most of the space is devoted to describing practical techniques. It is introductory to the field, but practical and some other advanced topics not found in all introductory books are included. There are 144 figures.

ENSMINGER, M. EUGENE

Horse husbandry Danville, Illinois The Interstate, 1951 336 p. illus. 24 cm. \$3.50. 2765

Contents: History and development of the horse and mule industry. Distribution, adaptation, and the future of the horse and mule industry. Types and classes of light horses according to use. Types and classes of work horses and mules. Breeds of light horses. Breeds of draft horses. Selecting and judging horses. Determining the age and height of horses. Determining and stable value. The use and height of horses. Determining and stable value. The use and height of horses. Breeding horses. Feeding horses. Breeding and equipment for horses and mules. Horse and mule health, disease prevention, and parasite control. Reproduction. Appendix table. All-time weights and measures of common breeds. Cautions table. All-time sales. United States and world records for thoroughbreds. The horse nomenclature. Breed publications. State agricultural experiment stations. Index.

Note: In this work on the care and breeding of horses under current conditions in the United States of America the emphasis is on light horses, such as are used for racing, riding, harness, etc. The book is addressed to beginners and to those who are interested in horse raising from a practical standpoint. For each breed of horse described the author gives origin and active lines, characteristics, distribution and use, and general value. The 144 figures include many reproductions of photographs of horses and numerous line drawings of such operations as breeding and weaning.

ENSMINGER, M. EUGENE

Sheep husbandry Danville, Ill. The Interstate, 1952 404 p. illus. 23 cm. (Animal agriculture series) \$3.50. 2766

Contents (abridged): History and development of the sheep industry. Types and breeds of sheep. Establishing the flock. Systems of sheep production. Breeding sheep. Feeding sheep. Sheep management. Buildings and equipment for sheep, sheep and goat health. Control marketing and packer slaughtering of sheep and goats. Wool and mohair. Goats. History of wool farms. Goats. Selecting, letting and showing sheep. Appendix: Distribution table. All-time top sales. The breed nomenclature. Breed publications. State agricultural experiment stations. Index.

Note: A practical book for use as a text in high school and college introductory courses. It is comprehensive enough to be used as a source of information for farmers who are just entering the business of animal husbandry or who want information about it as to decide whether to enter. Management but under many conditions and on small farms is discussed. The book is very generously illustrated, but no bibliography is included other than a list of current periodicals.

ENSMINGER, M. EUGENE

Swine husbandry Danville, Illinois The Interstate, 1952 378 p. illus. 24 cm. (Animal agriculture series) \$3.50. 2767

Contents: History and development of the swine industry. Distribution, adaptation and the future of the swine industry. Types and breeds of swine. Establishing the herd, selecting and judging swine. Breeding swine. Feeding swine. Ostrins and other high energy foods for swine. Protein and vitamin supplements for swine. Pastures for swine. Buildings and equipment for swine. Swine health, disease prevention and control. Control marketing and packer slaughtering of hogs. Scales, killing and eviscerating swine. Appendix: Animal waste. Weights and measures of common breeds. Gonitition table. AD-One pig price. The Iowa swinebreeders. Breed publications. Swine publications. Swine agricultural experiment stations. Index.

Notes: A well-organized, practical description of good techniques in swine production. The treatment is elementary enough for use in agricultural courses to high schools and colleges, yet sufficiently detailed for the guidance of farmers and swine raisers. The choice of foods, methods of feeding, and disease prevention are discussed in considerable detail. One hundred fifty illustrations and more than 20 tables supplement the textual material.

GORMAN, JOHN ALEXANDER

The western horse. Its types and training. Danville, Illinois. The Interstate, 1949 396 p. illus. 22 cm. \$3.00 2768

Contents: Part I, Training: Training the colt. Training the young horse to work. Training the stock horse. "Broke" horses. Rodeo devices. Training and judging the pleasure saddle horse. Trick training. Eastern and western shows. Horse shows and exhibitions. Horse races. Part II, Types of western horses: Light breeds of horses. Types of western stock horses. Rodeo stock horses. Wild horses. Draft horses and mules. Part III, Saddle and working horses: Rodeo horses in shipping. Marketing horses. Index. Breed associations.

Notes: "Western" in the title of this book refers of course to the western part of the United States of America, regions in which all types of horses at present, most of them under range conditions, and in which most of the "cow people" are produced. The book is almost evenly divided between the discussions of training methods and the descriptions of types of horses. The style is simple. The book is useful as a general source of information on how western horses are bred and trained. The author is a member of the faculty of the University of Wyoming.

MAYNARD LEONARD AMBY

Animal nutrition. Third edition. New York McGraw Hill Book Company, Inc. 1951 474 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink consulting editor) \$7.00 2769

Contents: Part I, General basis of nutrition. The expanding field of nutrition. The animal body and its food. Some physicochemical basis of its processes. Part II, The nutrients and their metabolism. The carbohydrates and their metabolism. The lipids and their metabolism. The proteins and their metabolism. The inorganic elements and their metabolism. The vitamins. Part III, The measurement of body needs and feed values: Feeding experiments. The determination of digestibility. Metabolic balances. Feeding standards. Part IV, Nutritive requirements for body processes and productive functions. The feeding standards. Maintenance. Growth. Reproduction. Lactation. Work production. List of useful side lines. Index. Subject index.

Notes: (3414) This concise textbook discusses the principles of nutrition underlying the success of feeding of farm animals. It also touches how new facts of nutrition are being learned experimentally and how they find application in practice. The third edition has been thoroughly revised to cover advances in the field since the second edition was published in 1947. The principal changes reflect advances in knowledge of nutrient acids, vitamins, and mineral elements, in addition to which the pages dealing with the chemistry of nutrition have been expanded to cover more specific day-to-day understanding of how nutrients function. The selected bibliography references have also been brought up to date.

PERRY ENOS J. editor

The artificial insemination of farm animals. Second revised edition. New Brunswick, N. J. Rutgers University Press, 1952 341 p. illus. 23 cm. \$5.00 2770

Contents: Material, by E. J. Perry. Advantages and Disadvantages, by E. J. Perry. The stages of reproduction, by J. E. R. The role of hormones in reproduction, by R. F. Rouse. General information,

tion, by E. J. Perry. Factors influencing the quality and quantity of semen, by E. J. Perry. Cattle, by E. J. Perry. Sheep and goats, by C. E. Tamm. Horses and jackasses, by V. Burdette. Birds, by F. P. Jeffrey. Swine, by E. J. Perry. Dogs, by E. P. Leonard. W. must breed better livestock, by J. W. Bartlett. Systems of breeding, by J. W. Bartlett. Selection of stock, by J. W. Bartlett. Artificial breeding organizations, by E. J. Perry. The shipping of semen, by E. J. Perry. Diseases in relation to artificial insemination, by J. A. Henderson. Feeding and management of stock, by J. W. Bartlett. Index.

Notes: (3440*) The second revised edition of this standard work on the artificial insemination of farm animals has been brought up to date in all its parts and contains an added chapter on the artificial insemination of dogs. Covering both principles and procedures of the method, the publication is complete exposition of the subject and may be equally well used as a textbook in agricultural colleges and as a manual of practice for those concerned with artificial insemination programs.

RICE, VICTOR ARTHUR, AND FREDERICK NEWCOMB ANDREWS

Breeding and improvement of farm animals. With chapter on Selection in meat animals by Everett James Warwick. Fourth edition. New York McGraw Hill Book Company Inc., 1951 787 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$8.00. 2771

Contents: Section I, Animals and man up to the present. Animal breeding—present and past. Early man and animal domestication. Animal origins and progressions. Section II, Mechanisms of reproduction: The male's part in reproduction. The female's part in reproduction. Reproductive efficiency. Lowered fertility and sterility. Pregnancy and parturition. Maternal development and the lactation of lactation. Artificial insemination. Section III, Mechanisms of heredity: Heredity and problems of genetics. The principles of heredity. The principles of variation. Sex determination. Section IV, The art of breeding: Systems of breeding—selected animals. Systems of breeding—selected animals. General considerations in selection. Selection in dairy cattle. Selection in meat animals. Selection in horses. Reproduction and progress. Appendix. Livestock record associations. Name index. Subject index.

Notes: (4974a) A standard textbook for agricultural college courses. Each section has been brought up to date with added data to cover new developments and added material in the bibliography and illustrations. Among the advances covered are the broadened implications of the fundamental aspects of animal agriculture and shifting emphasis among the various classes of livestock; further developments in the hereditary regulation of sex determination and the widespread adoption of artificial insemination and containing determination and adjustment of the basic laws of inheritance and their application to livestock improvement.

SAUNDERSON, MONT HARRIS

Western stock ranching Minneapolis. The University of Minnesota Press, 1950 247 p. illus. 24 cm. \$5.00 2772

Contents: Resources and trends. Livestock management economics. Grazing land use. Choice of feed crops for ranch use. Markets, prices, and livestock management. Planning the management program of the ranch. The use of federal public lands. Common and historical names of range plants. Bibliography. Index.

Notes: The author of the book is Range Economist associated with the United States Forest Service, and he has covered the subject of stock raising in western United States of America from the economic and management standpoint. Land, use, feed, labor, market prices, and management of grazing areas (both private and public) are among the important aspects discussed in some detail. Areas of the United States of America which are suited to ranching and the chief types of stock ranches are described in the first chapter.

SMITH, WILLIAM WESLEY

Pork production. With a chapter on Sanitation and disease control by L. M. Hutchings. Third edition. New York The Macmillan Company 1952 616 p. illus. 22 cm. \$5.50. 2773

Contents: General view. Feeding and handling the herd in the breeding season. Feeding pregnant cows and girls. Care and feeding of the sow and litter size of Duroc-Jersey with weight of pig-milk sow of sows. Housing and general management of the breeding herd. Food demands of the growing and fattening pig. Food deficiencies of the cereal crops. Forage crops. Methods of feeding on forage. Harvesting of corn and other crops. Protein supplements—dairy by-products—feeding hays and similar products. Protein supplements of plant origin. The cereal grains and other carbonaceous foods. The cost of producing pork. Marketing. Factors affecting the price of hogs. Judging. Breeds of hogs. Breeding, sanitation and disease control. Index.

Notes: (3019) A standard book on the subject used both as text in agricultural college courses and as reference book. All aspects of the subject which are of interest in the practical hog raiser are covered in considerable detail. References to the literature are included. The previous edition appeared in 1937. In the third edition there has been extensive revision in order to describe new management practices and to include research information published in the recent literature. Economic data have also been revised. The number of figures has been increased to 112.

SNAPP, ROSCOE R.

Beef cattle. With a chapter on sterility by Harry Hardenbrook, Jr. Fourth edition. New York: John Wiley & Sons, Inc., 1952. 641 p. illus. 23 cm. \$6.50 2774

Contents: Part I. General aspects of the beef-cattle industry: Process and areas of beef production. The relation of beef cattle to general farming. The relation of beef cattle to soil fertility. Part 2. The breeding herd. Advantages and disadvantages. When to start. Selection. Reproduction and mating. Pregnancy Parturition. Seasonal management. Winter management. Weaning, dehorning, castration, and marketing of calves. Feeding and care of young cattle. Part 3. Fattening cattle for market: Fattening cattle. The importance of age in growth and fattening. The importance of grade and sex in feeder cattle. The use of grain in fattening cattle. Carbonaceous concentrates and their use. Protein requirements. The principal nitrogenous concentrates. Roughages and its use. Cans along as feed for fattening cattle. A comparison of various silages. Grain as feed for fattening cattle. Miscellaneous feeding stuffs. The preparation of feeds for beef cattle. Methods of feeding. Part 4. General problems in beef production: Beef-herd production. The marketing of cattle. The financial aspect of beef production. Feeding cattle for show and race. Buildings and equipment for beef cattle. Diseases and parasites affecting beef cattle. Sterility Index.

Notes: (4977) After 15 years this comprehensive textbook and manual has again been revised and brought up to date. Included in the fourth edition are reports on new breeding and feeding techniques introduced since the previous edition, new methods of classifying carcasses and estimating the feed required to winter or fatten beef cattle of different ages and weights, new data on grain silages, new material on artificial insemination, and special chapter on sterility in beef cattle. Additions have also been made to the chapters on fitting cattle for show and race, on buildings and equipment, and on diseases, parasites, and poisonous plants. Four chapters of introductory and background materials and the lists of references at the ends of the chapters which appeared in the previous edition have been omitted. The new edition contains 110 illustrations and 243 tables.

WILLIAMS DAVID WILLARD

Beef cattle production in the South. Second edition. Danville, Ill. The Interstate, 1950. 450 p. illus. 21 cm. \$3.00 2775

Contents: (abridged) Historical development and distribution. Feeding beef cattle. Breeds of beef cattle. Breeding beef cattle. Feeds and feeding. Marketing beef cattle. Handling and management practices. Marketing beef cattle. Pasture. Sanitation—parasites—diseases. Equipment for beef production. Appendix. Glossary of terms. Select reference Index.

Notes: An introductory text written at the level of first courses in high schools and agricultural colleges. It is limited largely to practical aspects, but some elementary historical information is included. The 213 figures include pictures of beef breeds, ranch equipment, and management practices. The author is Vice-Chancellor for Agriculture in the Texas A. & M. College System.

DAIRYING AND DAIRY PRODUCTS

ECKLES CLARENCE HENRY

Dairy cattle and milk production. Fourth edition. Revised by Ernest L. Anthony. New

York: The Macmillan Company, 1950. 560 p. illus. 22 cm. \$5.25 2776

Contents: (abridged) Origin and classification of domesticated cattle. The dairy type. Holstein-Friesian, Jersey, Guernsey, Ayrshire, Brown Swiss, Milner breeds. Dual purpose cattle. General conditions, those in selecting breeds. Selection of the individual cow. Selection, care, and management of the sire. Cattle breeding. Calf feeding and raising. Calf raising and calfhood diseases. Factors influencing growth and development of dairy heifers. Registered herds—the business side of the post-war business. Care and management. Milking factors influencing the quantity and quality of milk. Common ailments of cattle. Feeding for milk production. Characteristics of common breeds. The size and shape. Notes for cows. Appendix. Index.

Notes: (49815) A long-established agricultural college textbook. In it are descriptions of dairy breeds raised in the United States of America are combined with discussions of the management of dairy cattle. In this edition evidence of serious and careful study is to be found throughout the book. However in most instances the changes are limited to the rewording of sentences and the insertion of new sentences or new paragraphs. Professor Anthony who is responsible for the fourth edition, is Dean of Agriculture in Michigan State College.

ECKLES CLARENCE HENRY, AND OTHERS

Milk and milk products prepared for the use of agriculture college students. By Clarence Henry Eckles Willes Barnes Comb, and Harold Macy. Fourth edition. New York: McGraw Hill Book Company Inc., 1951. 454 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) \$5.75 2777

Contents: (abridged) The constituents of milk. Factors influencing the composition of milk. Milk and dairy products as food, microorganisms. The Babcock method for determining fat in milk and cream. Common dairy processes. Market milk. The manufacture of dairy products—butter—cheese—ice cream—condensed milk, dry milk, milk by-products. Dairy arithmetic. Appendix. Methods for bacteriological analysis of milk. Bacteriological method for fat determination (official A.O.A.C.) Bacteriological method for fat determination (official A.O.A.C.) Table for calculating total solids in milk from specific gravity and fat percentage. Table for determining the total solids of sweet and sour cream bacteriologically from the lactometer reading. Market samples of creamery butter. Technical U.S. standards for grades of American Cheddar cheese. Specific gravity requirements for partial milk solids. Index.

Notes: (49334) A standard work used both as an introductory text and as practical guide for dairy plant personnel. The scope and scope are the same as in the preceding edition published in 1943 and much of the text has not been altered. However, several revisions have been made, particularly in the statistical material and in the tests described in the chapters on the Babcock method, microorganisms tests, and in the appendix.

ELLIKER PAUL REUBEN

Practical dairy bacteriology. New York: McGraw Hill Book Company Inc., 1949. 391 p. illus. 23 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) \$5.50 2778

Contents: Structure and distribution of microorganisms. Nutrition and growth of microorganisms. Inhibition and destruction of microorganisms. Methods of culturing and studying microorganisms. Milk as habitat for microorganisms. Methods used to determine quantity and quality of milk and milk products. Microbiology of butter, cream, butter and cheese starter cultures. Microbiology of butter, cream, fermented milk, condensed and dry-milk products. Ice cream. Cleaning dairy equipment. Index.

Notes: This book is both a text for college courses and a handbook for dairy farmers, inspectors, and dairy-plant workers. Proceeding from the ground to the specific the presentation begins with general introductory chapters on microorganisms, then covers all phases of bacteriology as it applies to the dairy industry. Details on microbiological methods is included so that the student is made very sure some complete knowledge of the nature of the processes affecting numbers and types of microorganisms in dairy products. The chapter on methods used to determine sanitary quality of milk and milk products presents a number of common procedures, such as standard plate count, microscopic count, and dye-reduction tests. These are presented to indicate briefly the nature of the methods, interpretation

of health, and the materials and equipment necessary to perform them. The author is Professor of Dairy Bacteriology at Oregon State College. Bibliographical references appear at the ends of the chapters.

EESE, DWIGHT, AND VEARL R. SMITH

Secretion of milk. Fourth edition. Ames, Iowa: Iowa State College Press, 1952. 291 p. illus. 23 cm. \$3.95 2779

Contents: Evolution of the mammary gland. Anatomy of the udder. Nervous innervation in mammary gland development. Hormonal innervation in lactation. Physiological and biochemical aspects of lactation. Physiology of milking. Mechanics of milking. Physiological factors affecting the quantity and quality of milk. Effect of feed on the amount and composition of milk. Environmental factors affecting lactation. Index.

Note: (1944?) This book is a standard critical review and digest of the literature pertaining to milk production in dairy cows. Each of the chapters consists of a concise text key numbered to an end of the chapters. Numerous references. Many points are made that are of value to the practical farmer, but the chief use of the book are as a supplementary text in agricultural college courses and a reference handbook in research. In the present edition the chapter on management has been somewhat reorganized, and literature published in late in 1950 has been covered.

GILMORE, LESTER ODELL

Dairy cattle breeding. Edited by R. W. Gregory. Philadelphia: J. B. Lippincott Company, 1952. 604 p. illus. 23 cm. \$6.00 2780

Contents: Domestication. Laboratorics and environment. Basic considerations in breeding. Case history analysis. Sex. Reproduction. Efficiency. Multiple births. Lethal. Maternal physical characters. Color and other patterns. Blood typing. Domestic resistance. Growth and development. Milk secretion. Efficiency of feed utilization. Longevity and miscellaneous physiological characteristics. The selective process. How production is recorded. Type and production. Estimating milk. Evaluating dams and cow families. Pedigree. Next steps. Informing. Outbreeding. Extending the use of well-bred bulls and cows. Artificial breeding. Collecting and processing meat. Purified cattle. Index.

Note: This publication is an inclusive textbook for agricultural college students and teachers which can also be of use to dairy cattle breeders, to officials of breed registry and artificial breeding organizations, and to vocational agriculture students and teachers. The author concentrates on the breeding of dairy livestock, except in certain chapters wherein records relating to all cattle are presented, each breeder's knowledge being considered helpful to the student for an understanding of the breeding of dairy livestock. These chapters are those dealing with domestication, environmental variations, reproduction, inherited characters, and systems of breeding. Illustrations number 173 and have 116 tables. Bibliographical references are given in footnotes, and study questions are given at the ends of the chapters.

LACKLES, H. R.

Western dairying. Danville, Illinois: The Interstate, 1951. 280 p. illus. 21 cm. \$3.00. 2781

Contents: Factors that influence milk production in the West. Ranching, partnerships and leases. Grass. The cow. The bull. Production milking and record keeping. The shelter. Feeding under western conditions. Diseases control. Pricing milk. The show business of natural. Index.

Note: A practical introductory text on the breeding and management of dairy cattle under the economic and agricultural conditions prevailing in the western states of the United States of America. It is addressed primarily to young people, especially students in high schools and colleges of 4-21 clubs. However, the subject is handled explicitly and thoroughly enough to make the book useful to anyone in need of an introductory view of the branch of western agriculture. Selected literature references are included.

NEVENS, WILLIAM BARBOUR

Principles of milk production. New York: McGraw Hill Book Company Inc. 1951. 443 p. illus. 24 cm. (McGraw Hill publications in the agricultural sciences, R. A. Brink, consulting editor) \$5.50 2782

Contents (abridged): Part I, Dairy farming affords many lucrative. Production of milk as important phase of agriculture. Part II, Feeding, breeding, and managing dairy cattle: Feeding dairy cattle: feeding cows during the lactation season—the composition and nutritive value of feeds—mineral and vitamin needs—feeding dairy cattle during the lactation season. Breeding dairy cattle: Selection—systems of breeding—artificial insemination. Raising the dairy calf. Part III, Dairy-cattle breeds and selection of individual animals. Part IV, Milk secretion, production of high-quality milk, and marketing milk. Part V, The business aspects of dairy farming. Part VI, Growing and preparing feeds for milk production. Good milk management essential to successful feed-crop production. Pastures on most farms may be improved. Making high-quality hay. Silage has an important place in milk production. Part VII, Better buildings for milk production. Index.

Note: Presenting both important principles and modern methods of milk production, this book is suitable for use as a textbook in agricultural colleges and as a practical guide for persons actively engaged in dairy farming. Appropriate illustrations are part of the text, while lists for supplementary reading and review questions are given at the ends of the chapters. The author is a member of the faculty of the University of Illinois.

OLSON, THOMAS MANDANEUS

Elements of dairying. Revised edition. New York: The Macmillan Company, 1950. 708 p. illus. 22 cm. \$5.50. 2783

Contents (abridged): Part I, Dairy cattle: Factors influencing the development of the dairy industry. Dairy cattle breeding. Holstein-Friesians. Jerseys. Guernseys. Ayrshires. Brown Swisses. Minor dairy breeds. Dual purpose breeds. Developing a dairy herd. Selecting individual animals and maintaining profitable herd. The dairy site. The dairy calf. Milk secretion. Factors affecting the quantity, composition, and quality of milk. Composition, chemistry, and nutritive value of milk. Factors affecting the composition and nutritive value of milk. Feeding standards and feeding practices. Cows to grow for dairy cattle and characteristics of common breeds. Maintaining healthy herd. Part II, Dairy products: Milk. Microorganisms of milk and production of quality milk. Treating milk products. Butter. Ice cream. Cheese. Part III, Dairy equipment: The business side of dairy farming. Essential buildings and equipment for dairy farming. Milk houses. Silos. Milking machines. Feeding and fitting dairy animals. Appendixes. National dairy inspection. Source code for dairy products. Glossary. (1949?) A college textbook which provides an introductory text inclusive treatment. The descriptions of individual breeds are inclusive but brief; but the practical aspects of developing a dairy herd, managing it, and marketing its products are discussed at considerable length. The discussions of such milk products as ice cream are not full enough to serve as guides to manufacturers but they contain enough information to enable farmers in heavy cases to decide whether or not the product under discussion is possible activity for the particular farm enterprise. In this edition the book has been considerably revised and separated by approximately 120 pages. There are 130 figures but few literature references.

Note: (1949?) A college textbook which provides an introductory text inclusive treatment. The descriptions of individual breeds are inclusive but brief; but the practical aspects of developing a dairy herd, managing it, and marketing its products are discussed at considerable length. The discussions of such milk products as ice cream are not full enough to serve as guides to manufacturers but they contain enough information to enable farmers in heavy cases to decide whether or not the product under discussion is possible activity for the particular farm enterprise. In this edition the book has been considerably revised and separated by approximately 120 pages. There are 130 figures but few literature references.

PETERSEN, W. E.

Dairy science, its principles and practice. Second edition. Edited by R. W. Gregory. Philadelphia: J. B. Lippincott Company, 1950. 695 p. illus. 24 cm. \$6.00 2784

Contents (abridged): The history of dairies. The economics of milk production. Milk consumption. Economics of market milk—The better industry—The cheese industry—Concentrated milk products—Ice cream industry—Milk by-products. Origin, development, and classification of dairy cattle. The Holstein-Friesian. The Jersey. The Guernsey. The Ayrshire. The Brown Swiss. The milking Shorthorn. The Red Poll. The latest breed. Types of dairy herds and breed selection. Selecting the individual cow. Fundamental considerations of heredity. Known inherited characteristics in dairy cattle. Systems of breeding. Selection and care of the herd sire. Artificial insemination. The purebred breeder. Calf raising. The physiology of milk secretion. Factors influencing the quantity and quality of milk. The milking machine and milking. Efficiency and cost of milk production. Common diseases of dairy cows. Dairy barns. Dairyyard measures. Common feeds—characteristics and treatment. Feeding dairy cows in the barn. Feeding cows on pasture. Chemical constituents of milk. Physical and chemical properties of milk. Dairy microbiology: bacteria, yeasts, and molds. Common tests of milk and cream. The most common dairy processes. Market milk. Butter. Cheese. Condensed and dried milk. Ice cream and other dairy products. Appendixes. References. Index. (1949?) A comprehensive volume devoted primarily for use as a text for college students of dairy production. It is of value also

organization. However, revised and later information has been inserted in many parts of the book and publications since 1943 have been added to the list of references.

BIESTER, HARRY EDWARD, AND L. H. SCHWARTZ, editors

Diseases of poultry Third edition. Ames, Iowa: The Iowa State College Press 1952 1245 p. illus. 26 cm. \$11.50 2791

Contents: Anatomy by H. L. Frost. Digestion, by E. A. Hewitt. Poultry genetics as related to pathology by M. F. Waters and J. M. Ryerson. Avian bacteriology by C. Olson. Principles of disease prevention, by W. R. Hanks. Proteins, carbohydrates, fats, fiber, minerals, and water in poultry feeding, by L. C. Morris and M. L. Scott. Vitamins and vitamin deficiencies, by R. M. Shriver and J. R. Couch. Fallow diseases, by H. Van Ransel. Poultry infections, by L. Fentemacher. Fowl typhoid, by W. J. Hall. Fowl cholera, by C. Murray. Tuberculosis, by W. H. Feldman. Infectious coryza, "choenix respiratory disease," and coccidiosis syndrome, by M. S. Hasted. Brucellosis, actinosis, pseudotuberculosis, tetanus, and vibrio infection, by H. J. Janszke. Listeriosis, botulism, cryptosporidiosis, and green infection, by M. D. Larkin. Sporotrichosis, saprochytosis, arthritis, colicarditis, and coccidiosis (Hof's disease) by M. S. Hasted. Diseases caused by fungi, by K. L. Bollen. The avian leishmaniasis complex, by E. Janszke. Infectious leishmaniasis, by M. S. Hasted. Infectious leishmaniasis, by M. S. Hasted. Newcastle disease, by C. A. Brandy. Ornithosis and psittacosis, by K. F. Meyer. Avian aeromonitosis (psittacosis) by P. K. Olitsky and H. Van Ransel. Lymphocytic enteritis virus in chicks, by L. T. Gilman. Fowl pox, by E. H. Cunningham. Fowl pox, by E. L. Stahler. Face-and-mouth disease in fowl, by P. K. Olitsky and H. W. Schwaninger. Rabies and infectious spleen disease, by L. H. Schwartz. Duck virus hepatitis, by P. F. Levine. Avian mononucleosis, by E. Janszke. Morphologic diseases of the chicken, by W. H. Feldman and C. Olson. J. Related diseases of poultry by E. A. Ransel. Hematologic and immunologic diseases of poultry, by E. W. Fries. Fowl pox, by E. R. Ransel. Diseases of the domestic system, by A. J. Duxon and H. C. McGowan. Poultry surgery by L. H. Schwartz. Vitamins and minerals in poultry nutrition, by L. H. Schwartz. Poisons and toxins, by L. H. Schwartz. Diseases of the turkey by W. R. Hanks. Index.

Notes (1952): An established encyclopedic reference book for chicken workers, veterinarians, and large-scale poultry farmers. The current knowledge of such topics as disease in the chapter titles is summarized and extensive bibliographies are given at the end of each chapter. Although the greater part of the text is identical with that of the previous edition, the revision has been thorough. References in new editions and to literature published since the references in the second edition appear throughout the book. Several of the chapters are signed with the names of new contributors. The chapter on anatomy and pathology—used of those very extensively revised—now includes bibliography of approximately 200 references, of which 58 were published since 1947. Incidentally this chapter has public health as well as veterinary interest.

CARD LEBLIE ELLSWORTH

Poultry production. Formerly by Lippincott and Card. Eighth edition thoroughly revised, with 216 illustrations and 4 plates 2 in color Philadelphia: Lea & Febiger 1952 416 p. illus. 24 cm. \$5.00 2792

Contents: The poultry industry. The structure of the chicken and the formation of the egg. Principles of poultry breeding. Selection and improvement. Incubation. Rearing and raising. Housing and equipment. The principles of poultry nutrition. The foods. The scientific requirements of poultry. Management practices. Controlling diseases and parasites. Marketing poultry products. The business of poultry keeping. Index.

Notes (1951): A long-established text widely used in agricultural schools and in the home study by practical farmers. The production of eggs and the raising of chicks is more emphasis on basic matters, such as the biology of evolution, than would be appropriate in a book for beginning students of the subject without the aid of an instructor. Nevertheless, the same emphasis is on the application of scientific findings to practical poultry farming. In this revision the chapter on broods and the extensive literature citations which were features of earlier editions have been dropped. On the other hand, valuable material has been added on poultry breeding and improvement, poultry houses, and recent developments in nutrition.

CHARLES, THOMAS BURR, AND HOMER O. STUART

Commercial poultry farming. Eighth edition. Danville Ill. The Interstate 1950. 540 p. illus. 24 cm. \$4.00. 2793

Contents: Incubation. Hatchery practices. Brooding practices. Battery brooding and laying cages. Broiler production. Capons and caponizing. Principles of feeding. Feeding chickens. Feeding adult birds. Rearing and range management. Selection. Breeding and sex distinction. Transporting and packaging. Improvement programs. Marketing. Fattening. Housing and appliances. Management factors. Poultry diseases. Egg incubation. Classes, breeds, varieties, strains. Turkey production. Index.

Notes: This work in its various editions has been used as an agricultural school textbook for many years. It provides an introductory but substantial survey of practical knowledge, together with relatively full discussions of improvement programs. All major phases of the subject are discussed from the selection of eggs for incubation to the packing and marketing of the eggs and dressed birds. It is not new up to date on such matters as the use of hormones in caponizing or the effects of antibiotics in promoting growth. There are scattered references to government publications, but both the bibliography and the index are inadequate.

HEUSER GUSTAVE FREDERICK AND OTHERS

Poultry management, by G. F. Heuser, G. O. Hall, and J. H. Bruckner Philadelphia: J. B. Lippincott Company 1952 565 p. illus. 22 cm. (Agricultural management series, prepared under the general supervision of R. W. Gregory) \$4.00 2794

Contents: The poultry industry. Breeds of poultry—their nature, characteristics, and uses. Principles and practices of poultry breeding. Culling the farm flock. Raising the flock. Feed, vitamins and poultry health. Raising the chicks. Brooding and rearing. Growing young stock. Feeding hens for production. Producing market poultry. Marketing poultry products. Poultry and egg shows. Diseases and parasites of poultry. Growing turkeys. Index.

Notes: A practical, comprehensive text. It is written in simple language and is addressed to such readers as students taking their first formal course in the subject, and to farmers now engaged in poultry raising or thinking of engaging in it. Economic aspects such as the relation between the number of laying hens per man working on the farm and labor income from the enterprise are adequately discussed. However, most of the space is devoted to descriptions of good practice. There are 87 tables of data on various aspects such as optimum levels of fecundity in incubators and composition of feed lots. There are numerous illustrations and adequate bibliography.

HOFFMANN EDMUND, AND JAMES M. GWIN

Successful broiler growing. Second edition. Mount Morris, Illinois: Watt Publishing Company 1951 256 p. illus. 22 cm. \$3.50. 2795

Contents: Introduction. Producing and consuming eggs. Outlook for poultry meat production. Breeds and strains. Rearing. Feeding principles and practice. Brooding and management. Diseases prevention and control. Marketing. Home killing and dressing broilers. Investment, financing, expansion, cost returns. Broiler production in battery brooding for meat production. Producing eggs for hatching broiler chicks. Appendix. Index.

Notes (1950): A practical work intended for use as text in agricultural courses in high schools and colleges, and as a text in instruction manual for practical poultrymen. It is written clearly and simply. In this edition the length has been increased by 70 pages. Many parts have been revised and the economic information has been brought down to about the end of the year 1949. Changes have been made in the bibliography.

HUTT FREDERICK BRUCE

Genetics of the fowl. New York: McGraw-Hill Book Company, Inc., 1949 590 p. illus. 23 cm. (McGraw-Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$7.00. 2796

Contents: Domestic birds. Cytology. Variations in the skeleton. Structural variations in the skin. Variations in the plumage. Variations in the color of the skin. Variations in the color of the plumage. Lethal genes and miscellaneous characters. Variations in body size. Egg production. Variations in eggs. Genetic resistance to disease. Genetic aspects of reproduction. Linkage. Genetics in practice. Appendix: Symbols for the genes of the fowl. Glossary. Author Index. Subject Index.

Note: Intended for use as a text and reference book for agricultural college students, this work surveys present knowledge of heredity and variation in the domestic fowl (chickens). The student is assumed to have had an introductory course in genetics, but the poultryman, who has not had such a course, should not have difficulty in understanding the book. Much of the text consists of digest of the literature of the subject. The final chapter tells how present knowledge may contribute to the breeding of better fowls.

JULL MORLEY ALLAN

Poultry breeding. Third edition. New York: John Wiley & Sons Inc., 1952. 398 p. illus. 24 cm. \$6.00 2797

Contents: Breeds and varieties of chickens. Physiology of reproduction. Mechanism of inheritance. Color characters. Morphological characters. Gene linkage and blood group antigens. Fertility and hatchability. Viability. Meat production. Egg production. Egg characters. Selection methods. Index.

Note: (3019) A standard treatise in which accounts of genetic mechanisms and descriptions of commercially desirable characteristics in poultry that are basic to breeding are given most of the space. However, these topics are covered from the viewpoint of practical breeding. Also in this edition, the final chapter outlines practical methods for the selection of breeding stock. Each of the chapters is supplemented by substantial list of literature references. The work was extensively rewritten for this edition. Text, illustrations, and bibliographies have all been revised.

JULL MORLEY ALLAN

Poultry husbandry. Third edition. New York: McGraw-Hill Book Company Inc., 1951. 526 p. illus. (part col'd) 24 cm. (McGraw-Hill publications in the agricultural sciences R. A. Brink, consulting editor) \$6.50 2798

Contents: The poultry industry. The breeds of chicken. The history of the chicken. Breeding principles. Breeding practice. Incubation principles and practice. Rearing principles and practice. Housing and younging principles and practice. Feeding principles. Feeding practice. Disease prevention and control. Marketing eggs. Marketing poultry. Economics of production. Index.

Note: A standard textbook for agricultural college courses. Essentially it is a complete guide to the principles and methods of modern poultry husbandry. In this edition it has been revised to bring it thoroughly up to date in all its parts, including text, illustrations, tables, and selected lists of references.

MARSDEN STANLEY J. AND JOSEPH HOLMES MARTIN

Turkey management. Fifth edition. Danville, Ill. The Interstate, 1949. 774 p. illus. 21 cm. \$4.50 2799

Contents: The turkey's place in American agriculture. Classification, origin, and history. Terminology and varieties. Turkey shows and showing. Breeding principles and practice. Characteristics, management, and feeding of breeding stock. Trapping and pedigreeing. Artificial incubation. Artificial breeding and rearing. Turkey feeds and feeding. Marketing, selection, and grades. Malformations and bad habits. Disease prevention and medicine. Diagnosis and control of diseases and parasites. Caponizing, sexing and artificial insemination. Appendix. Index.

Note: (1912) A standard work in which the results of modern scientific research are correlated with practical procedures in commercial turkey raising. Literature references and considerable range of references data are included. Chapters from the preceding edition are not major, but they do include some revisions in tables and bibliographies. Also the index has been much improved.

RICK, JAMES EDWARD, AND HAROLD E. BOTSFORD

Practical poultry management. 5th edition. New York: John Wiley & Sons, Inc., 1949. 614 p. illus. (part col'd) 21 cm. (The Wiley farm series, A. K. Getman and E. R. Eastman editors) \$3.95 2800

Contents: Calling the flock. Principles of selection. Housing the laying and brooding stock. Principles of housing poultry. Feeding the laying and brooding stock. Principles of feeding layers and broilers. Anatomy and physiology of the domestic fowl. Using artificial illumination on laying and brooding stock. Keeping records of the flock. Studying the records. Diagnosing common diseases. Treating diseases and combating parasites, pests, and vices. Maintaining sanitary conditions. Preparing eggs for market. Preparing poultry for market. Selecting broilers. Mating the broilers. Raising the flock. Hatching the eggs. Formation of the egg and chick. Brooding the chicks. Preventing and treating chick disease, parasites, and vices. Capon production. Maintaining egg production during the summer. Mid-season care of young stock. Fattening, exhibiting, and judging poultry. Classes, breeds, and varieties. Shell I to poultrymen's index.

Note: (3044) The latest edition of a standard manual and complete illustrated guide to the principles and practice underlying successful poultry raising. The book is especially suitable for beginners in poultry husbandry whether on farms and chicken ranches or in agricultural colleges and vocational schools. The new edition covers the advances of the 1940's, including the new types of housing and equipment introduced for labor-saving purposes, and the new types of feeding rations resulting from research in nutrient allowances for chickens.

TAYLOR, LEWIS WALTER, editor

Fertility and hatchability of chicken and turkey eggs. New York: John Wiley & Sons, Inc., 1949. 423 p. illus. 22 cm. \$5.50 2801

Contents: The structure of the breeding flock, by W. W. Cress. Formation of the hen's egg, by D. C. Warren. Fertility in chickens and turkeys, by J. E. Parker. The care of hatching eggs before incubation, by E. M. Fitch. Mechanism of the developing embryo, by G. A. L. Ransford. Physical conditions in incubation, by W. M. Locke. J. Genetics and physiology of embryonic development, by H. R. Hensley and W. Lockwood. Diseases in relation to hatchery operations, by W. R. Henshaw. Education and research in hatchery operations, by L. W. Taylor. Appendix: Supplementary fertility and hatchability by L. W. Taylor. Appendix: Supplementary references. Incubation trouble-shooting chart. Glossary. Index.

Note: A review of all significant literature through 1947 on factors influencing fertility and hatchability of chicken and turkey eggs. It was published at the invitation of the International Poultry Chick Association. Particular consideration is given by the authors to evaluation of results obtained from past research and to problems remaining to be solved. The book can serve both as a reference work and as a source of information for those concerned with the practical applications of the subject. Extensive lists of pertinent literature are included.

WINTER, ALDEN RAYMOND, AND E. M. FUNK

Poultry science and practice. Edited by R. W. Gregory. Third edition. Philadelphia: J. B. Lippincott Company, 1951. 662 p. illus. 24 cm. \$6.00 2802

Contents: The poultry industry. Classes, breeds, and varieties of chickens. The anatomy and physiology of the chicken. Breeding principles. Breeding practice. Incubation principles and practice. Rearing principles and practice. Housing principles and practice. Feeding principles. Feeding practice. Diseases and parasites. Prevention and control. Marketing eggs. Marketing poultry. Poultry management. Turkey varieties and breeding practice. Turkey production and management. Ducks, geese, and miscellaneous poultry. Game bird production, by James Hamilton. Appendix. Index.

Note: (3049) A comprehensive work designed for use both as a text in agricultural college courses and as a reference manual for agricultural extension workers and practical farmers. A wide range of information is presented in the text and 141 tables. The chapter on marketing of poultry may be cited as an example of the thoroughness of the treatment. This chapter is 41 pages long, contains

30 Illustrations, 6 tables, and 3-page bibliography. Both small and large-scale packing methods are covered. The second edition was published in 1944. The third edition represents an extensive revision and augmentation. The type has been reset.

FISH CULTURE

TAYLOR, HARDEN FRANKLIN, AND OTHERS
Survey of marine fisheries of North Carolina. By Harden F. Taylor and a staff of associates. Chapel Hill: The University of North Carolina Press, 1951. 555 p. illus. 26 cm. \$10.00. 2803

Contents (abridged). Foreword, by H. E. Coker. Part I, Hydrography of North Carolina marine waters, by M. Marshall. Part II, Biology and natural history of the economic species: Introduction, by K. V. Taylor. The mullet, by W. A. Elmes, Jr. The Atlantic croaker, by K. V. Taylor. The oyster and other mollusks in North Carolina, by A. F. Chittenden. The shrimp in North Carolina, by C. Broad. The crab in North Carolina, by J. C. Parnum. The diamond-back terrapin in North Carolina, by H. E. Coker. The scoured resources of North Carolina, by H. J. Hanson. A preliminary survey of marine angling in North Carolina, by F. L. Leland. Part III, Economics of the fisheries of North Carolina, by K. V. Taylor. Bibliography. Appendix. Index.

Note. A comprehensive monograph that covers the biological, practical, economic, and legal aspects. Although limited to marine products that are of some importance in North Carolina the book is of some local interest, because the marine products gathered by North Carolina fishermen are identical with those gathered by fishermen of many other regions. Similarly the distribution of economic and ecological areas of general interest along at least the Atlantic seaboard of the United States of America. The book is especially different systems of published literature and includes much information, especially economic information, that had not been published elsewhere. Bibliographies and numerous statistical tables are included.

VETERINARY MEDICINE

DYKSTRA, RALPH RALPH
Animal sanitation and disease control. Revised and enlarged edition. Danville, Ill. The Interstate Printers-Publishers, 1949. 808 p. illus. 21 cm. \$3.75. 2804

Contents (abridged). Part one, Some animal health factors: The anatomy and physiology of the organs of digestion in animals. Fats, nutrients and temperature. Vitamins, minerals and hormones as health requirements. Water and its influence. Animal housing and control. Animal surroundings and disease. Part two, Some animal diseases: Domesticating and domestic. Hereditary factors and abnormalities. Insects and control and their role. Communicable and noncommunicable diseases and their control. Some methods of disease control. The quarantine. Disinfectants, their use and disposal of carcasses. Part three, Infectious and their control: Guidelines in the selection of chemical disinfectants and their mode of action. Non-chemical disinfection. Methods of application of chemical disinfectants. Part four, External and internal parasites and their control: Distinguishing buildings. Some disinfecting agents and repellents. Rats, and some other rodents, and their control. Part five, Non-infectious, especially abnormality: General statement and prophylactic measures. Some specific abnormality. Control and causative factors and etiologic. Some surgical abnormality. Plant, food, and chemical poisoning. Deficiency abnormality. Part seven, Infectious and communicable diseases of farm animals. Part eight, Some infectious and communicable diseases of household pets: General sanitary measures for the control of poultry diseases, and description of some of the diseases. Part nine, Parasites and diseases: Some larger (macroscopic) parasites. Some smaller (microscopic) parasites. Part ten, Miscellaneous information: Some special methods of diagnosis. Artificial feeding of orphaned animals. Methods of administering medicine to animals. Livestock breeding problems. Artificial insemination or artificial breeding. The small and medium horned sheep disease common to man and animals. Part eleven, Livestock sanitary measures, health, and communication, and the veterinarian. Index.

Note. (1971) A revised and enlarged edition, brought up to date, is a standard textbook on disease control in domestic farm animals. It is addressed to students, farmers, and others concerned with the

health of livestock. Emphasized are the principles for the prevention of animal diseases. The book is divided into 31 chapters covering all phases of the subject and contains 123 illustrations.

HADLEY, FREDERICK BROWN

Principles of veterinary science. Fourth edition illustrated. Philadelphia: W. B. Saunders Company, 1949. 521 p. illus. (part col.) 21 cm. \$5.00. 2805

Contents: Part I, Anatomy and physiology of animals: Introduction. The animal world. The animal body as a whole. The skeletal system. The muscular system. The nervous system. The circulatory system. The respiratory system. The digestive system. The excretory system. The special systems. Part II, Animal diseases: The meaning of disease. Veterinary medicine. Veterinary hygiene. Veterinary pathology. Wounds and wound infection. Diseases of the digestive system. Diseases and vitamin deficiency diseases. Veterinary surgery. Veterinary obstetrics. Disturbances of the reproductive system. Other noncommunicable diseases. Some communicable diseases. Veterinary parasitology. Poisons and poisons. Index.

Note. (1971) An introductory textbook for college courses. It is more suited to the needs of students, but is interesting to veterinary students as a phase of animal husbandry than to those students who are preparing for the veterinary profession. The sections on structure and function are designed to be of practical value in judging animal form, capacity, and productivity as well as in the solving of problems connected with the feeding and breeding of animals. In the present edition less space is devoted to the horse and more to the dairy cow. One new chapter has been added, and the discussion of animal husbandry has been enlarged to include recent advances in this field.

HAGAN, WILLIAM ARTHUR, AND DORSEY WILLIAM BRUNER

The infectious diseases of domestic animals with special reference to etiology diagnosis, and biologic therapy. Second edition. Ithaca, New York: Comstock Publishing Company Inc., 1951. 920 p. illus. 24 cm. (Comstock series in veterinary medicine, William Arthur Hagan, consulting editor) \$8.75. 2806

Contents (abridged). Part I, The mechanisms of infection and resistance: The causes of disease. The positive mechanisms of the body. Toxins and antibodies. The lytic antibodies. The agglutinins and precipitins. Phagocytosis. Hyperinflammation. Part II, Chemotherapy. Part III, The pathogenic bacteria. Part IV, Bacterial-like pathogenic organisms of uncertain classification. Part V, The pathogenic fungi. Part VI, The pathogenic protozoa. Part VII, The viruses. Index.

Note. (1971) A successful textbook for the instruction of college students of veterinary medicine. It is useful also to graduate practitioners of veterinary medicine and research workers as a reference manual and guide to the literature. Although arranged largely of contents to standard biological groups, there is little emphasis on morphology and classification. Instead, for each organism such matters are discussed as culture, pathogenicity for experimental animals, disease manifestations in domestic animals, modes of transmission, diagnosis, chemotherapy, etc. Also if the organism is pathogenic to man this fact is noted. In comparison to the first edition the book has been very extensively rewritten. It is more than 300 pages longer and now contains 152 figures. The authors are faculty members of the New York State Veterinary College at Cornell University.

MCCAY CLIVE MAINE

Nutrition of the dog. Second edition. Ithaca, New York: Comstock Publishing Company Inc., 1949. 337 p. illus. 22 cm. \$3.50. 2807

Contents: Man and his dogs. Carbohydrates for dogs. Fat in the diet of dogs. Protein for dogs. Amino acids and protein derivatives. Mineral requirements of dogs. Fat-soluble vitamins. Water-soluble vitamins. Modern dog foods. The ingredients of dog foods. Food tests. Training dog foods. Blood and bone. Practical feeding and management of dogs. Kennels and equipment. Parasites and their control. Questions about foods. A shod of books for the dog owner. Index of persons. Index of subjects.

Notes: Offering more than the title suggests, this book is guide to the care and the feeding of dogs. The style is sufficiently non-technical to make the book available to the average owner of dog, but the wide range of information included, together with the extensive literature references, gives the book enough substance to make it valuable to students as well. Each chapter includes an introductory section of essential information which is then developed on a more technical basis. This edition incorporates recent advances and is more than twice as long as the first edition published in 1943. Statements in the text are keyed to the bibliography. References are given to papers published in both U.S.A. journals and the journals of other countries.

MERCHANT, IVAL ARTHUR

Veterinary bacteriology and virology
Fourth edition. Ames, Iowa Iowa State College Press 1950 885 p illus. 24 cm. \$8.50
2808

Contents (abridged): Part one. General biology of microorganisms: The physiology of microorganisms. Bacteriological techniques and methods. Sterilization and disinfection. Antibiotic agents. Part two. Infection, resistance and immunity: The mechanism of infection. Toxins and antibodies. Application and prophylaxis. Cytology and complement fixation. Phagocytosis. Anaphylaxis and allergy. Part three. Classification and characteristics of pathogenic bacteria, yeast and molds. Part four. The filtrable viruses and bacteriophages: General characteristics of virus diseases. Methods used in the study of viruses. Classification of viruses. Index.

Notes (1310°): A standard textbook for introductory courses in veterinary colleges and reference manual for practicing veterinarians. About equal emphasis is given to morphology and to physiology. In parts 3 and 4 there are systematic descriptions of genera in which the following points are covered for each genus: symptoms and history, distribution and transmission, morphology, cultural requirements, resistance, biochemical properties, metabolic structure, pathology, immunity and laboratory diagnosis. In this edition the length of the book has been increased by approximately 700 pages. The sections on filtrable viruses and bacteriophages have been much enlarged and other sections have been revised. There are 143 figures and extensive literature references.

MULLIGAN, RICHARD MICHAEL

Neoplasms of the dog. Baltimore The Williams & Wilkins Company 1949 135 p. illus. 23 cm. \$4.00
2809

Contents: Introduction. Mucousy neoplasms. Epithelial neoplasms of skin and viscera. Neoplasms of mesenchymal origin and of nerve sheath cells. Melanoma. Mast cell sarcoma, lymphosarcoma, histiocytoma. Neoplasms of connective tissue. Other neoplasms. Technical nomenclature. Bibliography. Index.

Notes: A compact monograph in which most of the space is given to the commoner neoplasms while the uncommon ones are described rather briefly. It is concerned with diagnosis and classification, not with treatment. However data relating incidence to age and sex are included. There are 30 plates, most of which contain reproductions of more than one photograph. Microphotographs of neoplastic tissues predominate but there are also a number of photographs of gross specimens. The book is of interest to teachers and students of veterinary pathology and to practicing veterinarians.

NEWSOM, ISAAC ERNEST

Sheep diseases. Baltimore The Williams & Wilkins Company 1952 352 p. illus. 24 cm. \$7.00
2810

Contents: Part 1. Infectious diseases: Diseases due to bacteria. Diseases due to fungi. Diseases due to protozoa. Diseases due to filtrable viruses. Diseases due to rickettsiae. Part 2. Parasitic diseases: Diseases due to external parasites. Diseases due to internal parasites. Part 3. Non-infectious diseases: Diseases due to deficiency. Neoplasms. Diseases of the digestive system. Diseases of the respiratory system. Diseases of the urinary system. Diseases of the genital system. Diseases of the circulatory system. Diseases of the nervous system. Diseases of the skin and of the ear. Part 4. Poisoning: Diseases due to inorganic poisons. Diseases due to organic poisons. Diseases due to poisonous plants—phosphorus. Diseases due to plants containing hydrocyanic acid (prussic acid). Diseases due to plants containing selenium. Diseases due to other plants. Index.

Notes: An inclusive textbook and reference manual which is devoted entirely to diseases of specific diseases. The typical entry on a disease covers such points as etiology, symptoms, mortality, morbidity, treatment, and literature references. The essays on parasitic diseases contain also descriptions of the life cycles of the parasites. There are 114 illustrations and lists of literature references. The book is of interest to practical sheep breeders, veterinarians, agricultural extension workers, and students of veterinary medicine. The author is Dean of Veterinary Medicine of Colorado Agricultural and Mechanical College.

SEIDEN, RUDOLPH

Livestock health encyclopedia: the control of diseases and parasites in cattle, sheep and goats, swine, horses and mules with explanation of veterinary, medical, pharmaceutical, chemical, and other scientific terms. Based on official publications. New York Springer Publishing Company Inc., 1952 614 p. 24 cm. \$7.50
2811

Notes: An alphabetically-arranged reference book designed for the use of farmers rather than veterinarians. Most of the entries are short but some run to full pages or more. A wide range of information is included, some of it rather technical. Most entries are keyed to citations of the source publication from which the information given was derived. The bibliography of these publications constitutes a useful list of currently useful state and federal government publications.

WHITNEY, LEON FRADLEY

The complete book of home pet care. Garden City New York Doubleday & Company Inc., 1950 552 p. illus. 22 cm. \$4.95
2812

Contents (abridged): The natural body and how it functions. Drugs and their uses. Minor operations and home surgery. How to give medicines and apply accessories. Problems of reproduction. Sanitation and hygiene. Health hazards in hospitalization, boarding, and shows. How to feed your dog. Rabbits, parrots. General diseases and their treatment. Parasites. Cats and their food. Breeding and raising kittens. General diseases of birds. Miscellaneous breeding and raising birds. General diseases of birds. The bearded pigs. The care and breeding of birds. Diseases of birds. The care and breeding of aquarium fishes. Allomats of fish. Other water pets. Selected bibliography. Index.

Notes: An encyclopedic compilation of the information about the feeding and elementary care of such animals as dogs, cats, rabbits, guinea pigs, birds, fishes, and turtles. The author is a veterinarian but the book is designed for owners of pets rather than professional veterinarians or commercial breeders. A wide range of helpful information is included and is made quickly available by an exceptionally full index.

FORESTRY

ALLEN, SHIRLEY WALTER

An Introduction to American forestry Sec
ond edition. New York McGraw Hill Book
Company Inc., 1950 413 p. illus. 24 cm.
(The American forestry series Walter Mul
ford, consulting editor) \$6 00 2813

Contents: Man and the forest. Modifying the country with forests. What our forests are and what they produce. What a forest is. What forestry is. Forestry that starts with forest. Forestry that starts with man. Defending the forest from fire. Defending the forest from attacks of insects and other animals. Defending the forest from human pests and from the elements. Managing the forest. Harvesting the forest crop. Making forest products adaptable and desirable. Forestry and the farmer. Forestry and the states. Forestry as public policy in the United States. How the Forest Service and other Federal forestry agencies work. The laws, rules and communication practices forestry. The practice of forestry on private lands. Education in forestry—the professions of forestry. Forestry and national planning. Appendix. Selected forest-fire statistics. American forest schools. Index.

text in college courses and secondary as source of general information about luxury and forest conservation in the United States of America. It is written in simple style and most of the material is descriptive. The first edition was published in 1938. Numerous minor revisions are apparent in this edition but the book has not been extensively revised.

BAKER, FREDERICK STORRS

Principles of silviculture. New York: McGraw Hill Book Company Inc. 1950. 414 p. illus. 24 cm. (The American forestry series. Walter Mulford, consulting editor) \$5.50.

Contents: Introduction. Forests in general—their form and composition. Ecological characteristics of forests. Classification by size, quantity and quality. Tolerance and crown closure. Water supply of the forest. Utilization of water by the forest. The photosynthetic process. Mineral and mineral nutrition (forest soils). Production of seed. Dispersal and seed. Overwintering losses of seed. Germination of seed. Establishment; mortality of seedlings. Growth of plants in general. Height growth of trees. Growth of trees in diameter. Growth of trees in volume. Growth of stands. Biology of the growth of stands. Bibliography. Index.

Note. (1941) A college textbook in which the chief emphasis is on the physiological aspects of trees and forestry. There are full discussions of such topics as transpiration, the development of cambium in the secondary stage, survival of seedlings under various conditions, and relations between growing space and production of merchantable timber. A bibliography of 119 references is included. The book is an extensive revision of the first half of the author's *Theory and practice of silviculture*, New York, 1934.

BAKER, DOW VAWTER

Pathology in forest practice. Second edition. New York John Wiley & Sons, Inc., 1952 601 p. illus. 24 cm. \$7 50. 2815

Consider: Frost, diseases. The fungi that cause diseases. Low and
spread of damage. Relation of soil and position to dis-
eases. Incidence. Relation of site and cultural practices to
incidence in plantations. Relation of site and cultural practices to
disease incidence in the mature forest. Relation of fungi and various
other pests to diseases in the mature forest. Relation of site
and care of shade and park trees to disease incidence. Handling and
treatment of forest products in relation to decay and certain other
defects. Diseases, status, and insects on forest (and allied)
products. Trees.

Note (2093) A practical treatment of tree diseases in the woods that the subject is treated from the viewpoint of professional foresters and others who are concerned with silviculture as well as the marketing and use of lumber. Diseases in tree species and ornamental tree plantings are also covered from a practical viewpoint. Apparently equal emphasis is placed on descriptions of tree diseases and on their control. A wide range of useful information has been added in this edition. The new material pertains both to recent developments in the understanding of specific diseases and to control methods.

BRAUN EMMA LUCY

Deciduous forests of eastern North Amer
ica. Philadelphia The Blakiston Company
1950 596 p. illus. 23 cm. \$10 00. 2816

Contents: Part I. Introduction. The forest. Forest ecology and taxonomy. Part II. The deciduous forest formation. The deciduous forest as a whole. The mixed mesophyllous formations. The mesophyllous forest types. The oak-chestnut forest regions. The oak-hickory forest regions. The oaks-white-oak forest regions. The oak-pine forest regions. The oaks-red-jack pine forest regions. The maple-beech-fir forest regions. The hemlock-white pine forest regions. The spruce-fir forest regions. Part III. The evolution of the present pattern of forest distribution. Problems of forest distribution. The paleontological record. Disjunct occurrences of species and communities and their significance in forest migration. A brief phylogeographic history of eastern United States. A chronologic sketch of forest development considered from a physiogeographic point of view. Of climatic changes and their influence on the forest regions. Habitat of forest vegetation and common species. Subject Index.

Synopsis: Index of scientific names contained in the book of more than 21 years of field study. Includes the deciduous forests of eastern North America represented by study of the literature of the subject. It provides a broad view of the eastern forest area, portraying the present patterns and so far as possible reconstructing the patterns of the original forest, providing data on composition and aspect of forest communities in all parts of the forest area, and tracing through geologic time the development and distribution of forests in eastern North America. The bibliography includes about 300 references and the illustrative material consists of 64 black and white photographs, 11 tables, and 10 maps.

Size: 60 x 94 cm. 100 pages. 100 copies of the book, including the 64 black and white photographs, 11 tables, and 10 maps, may be obtained from the publisher at \$1.50 each.

BROWN NELSON COURTLANDT

Logging the principles and methods of
harvesting timber in the United States and
Canada. New York John Wiley & Sons Inc.,
1949 418 p. illus. 24 cm. \$5 50. 2817

Contents (abbreviated) Part I. General introduction Forest utilization, forest resources and management valuation. Forest labor and housing. Partial cutting (selective logging). Part II. Preparation of logs for transport: Felling and bucking. Part III. Minor log transportation Annual skidding. Tractor logging. Power logging—cable-laying systems. Part IV. Loading for transport. Part V. Major water transportation: Chests. Wheeled vehicles—scoops and barges. Motor trucks. Power skidders. Part VI. Major water transportation: Floating and skidding. River and lake piers and booms. Ocean piers. Flumes. Part VII. Index.

Notes (3115-9) The several books by Professor Arvon on various aspects of the lumbering industry are well known to students of forestry and to the industry. The present volume brings together in revised form two earlier works, *Lugging—principles and practice*, New York, 1934 and *Lugging—transportation*, New York, 1934. It constitutes a practical and up-to-date guide to the methods and techniques of lugging, handling, collecting, and transporting lumber as practiced in the United States and Canada. Particularly valuable are the descriptions of the latest types of equipment, the tabulations of data regarding operating costs and production estimates, and

the numerous photographs and diagrams illustrating operating methods. The extensive bibliographies contained in the two earlier volumes have been omitted in this revision.

CHAPMAN, HERMAN HAUPT, AND WALTER H. MEYER

Forest mensuration. New York. McGraw Hill Book Company Inc. 1949 522 p. illus. 24 cm. \$5.50. 2818

Contents (alphabetical): Elementary computations. Cord or stacked measure. Cubic volume of logs. The measurement of board feet in the log. Construction of log rules. Piece products. Determination of volume of felled trees for the construction of volume tables. Local tree volume tables. The construction of standard volume tables for cubic feet. The construction of alternate charts for standard volume tables for cubic feet. The construction of standard volume tables for board feet. The construction and application of taper tables. The measurement of diameters of standing trees. The measurement of heights of standing trees. The boundary survey and determination of total area. Timber estimating for cubic and cord measure. Timber estimating for board feet by use of log rules. Measurement of piece products in the tree. Fundamental statistical techniques. The age of trees and stands. The growth of trees and of stands. Normal yield tables for even-aged stands and their construction. Periodic and current growth in diameter based on stand tables. Growth percentages. Sample plots. The forest survey or boundary approach.

Note. (5111) Forest mensuration is treated on an advanced but practical level in this work. The table of contents indicates the wide scope. Not only are log rules and volume tables discussed but other techniques that may concern foresters and timber managers such as the establishing of boundaries in lands covered by long ago are covered also. Problems such as the varying contents of the cord and the accuracy of established log rules are analyzed. The estimating of growth and yields is fully discussed. Extensive bibliographies are included. The book is a text for college students of forestry and several for graduate foresters. It supersedes H. H. Chapman and D. R. Desautels, *Elements of forest mensuration*, 1932.

CRAIGHEAD FRANK COOPER, AND OTHERS

Insect enemies of eastern forests. Washington, D. C. Government Printing Office, 1950 679 p. illus. 24 cm. (United States. Department of Agriculture. Miscellaneous publication no. 657) \$2.50 2819

Contents: Introduction: Richness of insects to forest and economical trees. Prevalence and activity of forest insects. Insects and diseases. The control of forest insects. Natural control factors and influences. Biological control of forest insects. Insects attacking shade and ornamental trees. Insects in living trees. Insects in nurseries and young plantations. Insects attacking forest products. Bark beetle control. Insecticide control of insects in the forest, by R. F. Potts. The use of beneficial insects in the control of forest tree pests, by R. C. Brown. The ecological position of insects and some of their economic relatives: Crustacea and arachnids. Millipedes and centipedes. Scorpions. Pseudoscorpions. Spiders. Harvestmen. Mites, ticks, and ear spiders. Mitebees, by R. A. St. George. The forest insects: Practical keys to the orders, families, and genera of forest insects, based on types of injury. Important orders of insects. The termites, by T. R. Snyder. Grasshoppers, katydids, weevils, and related forms, by M. D. Wyman. Sawing insects, by W. L. Baker and others. The beetles, by F. C. Craighead and others. Hymenoptera and wasps, by J. V. Schaffner, Jr. The flies, by R. T. Weber. Hymenoptera. The sawflies and sawflies, by J. V. Schaffner, Jr. and Wilbur Matheson. Beet, wasps, ants, and psocids, by F. R. Dyer. Literature cited. Index.

Note. This publication treats in practical manner the more important forest insects of the United States east of the Great Plains (or, roughly east of the 100th meridian). The insects are described in systematic order with numerous illustrations, chiefly photographic. Keys to aid in identification are frequent. There is considerable discussion of practical control methods. The work is companion volume to F. F. Koen, *Forest enemies of western forests* (United States. Department of Agriculture. Miscellaneous publication no. 177).

FLICK FRANCES JOSEPHINE, compiler

The forests of continental Latin America (including European possessions). A bibliography of selected literature, 1920-1950.

Washington, D. C. Government Printing Office, 1952 193 p. 23 cm. (United States. Department of Agriculture. Bibliographical bulletin no. 18) Paper, \$0.45 2820

Contents: Sources consulted. General. Argentina. Bolivia. Brazil. Central America. British Honduras. Costa Rica. Guatemala. Honduras. Nicaragua. Panama. El Salvador. Chile. Colombia. Ecuador. The Guianas. British Guiana. French Guiana. Surinam (Dutch Guiana). Mexico. Paraguay. Peru. Uruguay. Venezuela. Periodicals. Index.

Note. An annotated bibliography of books and periodicals published between 1920 and 1950. A total of 1937 books and articles is listed. For each item are given author, title, publication data. Brief annotations follow where scope of the article is not clearly indicated in the title. Outside the scope of the bibliography are such commodities as *Hevea* rubber, diacoma, and palm products, which are subject to separate bibliographic treatment. Also excluded, or included only incidentally are references on economic history, wood technology, forest legislation, commodity production statistics, and trade statistics.

GRAHAM, SAMUEL ALEXANDER

Forest entomology. Third edition. New York. McGraw Hill Book Company Inc., 1952 351 p. illus. 24 cm. (The American forestry series. Walter Muirford, consulting editor) \$6.00. 2821

Contents: Introduction. Historical review. Detection and appraisal. Reproductive potential. Environmental resistance. Population levels. Direct control of tree insects. Direct control by chemical methods. Insecticides and their effects. Methods of insect control. Indirect control by parasites and predators. Indirect control by structural practices. Saw-tooth insects. Ang-tooth insects. Maricostic insects. Phloem insects. Phloem-wood insects. Wood destroyers. Bibliography. Index.

Note. (5099) An introductory work addressed primarily to college students of forestry but potentially valuable to any nature reader in need of survey of the problem of control of insects injurious to forests. The subject is treated from the viewpoint of forestry and even in the chapters on kinds of insects, the author has not attempted to name all the injurious insects. The emphasis is on biological and chemical control methods and on matters related to control, such as the effects of weather. The second edition was published in 1916. In comparison this edition represents very extensive revision with much material on such topics as chemical control, that did not appear in the 1919 edition. There are now 35 figures and 22-page classified bibliography.

GUIRE, CEDRIC HAY

The management of farm woodlands. Second edition. New York. McGraw Hill Book Company Inc. 1950 356 p. illus. 24 cm. (The American forestry series, Walter Muirford consulting editor) \$6.00. 2822

Contents: Farm woodlands and forestry. The structure and physiology of trees. Ecology of woodlands. The volume of woodlands. The products, surveys and maps. The volume of trees and stands. The increment and yield of growing timber. The care and improvement of woodlands. Establishing new woodlands—forest planting. The use of farm woodlands. The utilization of woodland products. The marketing of woodland products. The diversity and conservative treatment of farm woodlands. Woodland management. Index.

Note. (5100) A standard description of forestry principles and practices applicable to the management of small woodlands and timber stands on farms in the United States of America and especially in the northeastern part of the country. The emphasis is on principles and practices that will produce continued and profitable yield. The book is used chiefly in college text, however it is also suitable for use as manual of practical information. The first edition was published in 1918. This edition lacks most of the statistical material that appeared in the first edition, but useful material has been added on such topics as timber estimating, logging methods, and tree planting.

MEYER, HANS ARTHUR, AND OTHERS

Forest management. By H. Arthur Meyer, Arthur B. Recknagel and Donald D. Steven

son. New York The Ronald Press Company, 1952 290 p. illus. 24 cm \$6.00. 2823

Contents: Part I, Introduction: Scope and objectives of forest management. History and present status of forest management. Part II, General organization of forest property for management: Ownership, boundaries, and subdivisions of forests. Maps and classification of forest conditions. Actual growing stock and growth. The development and improvement of forests. Business aspects of forest management. Part III, Forest regulation: Problems and scope of forest regulation. The national forest system. The national forest land. Methods of regulation of cut. Part IV, Management plan: Types and forms of management plan. Forest woodlands and other small forest properties. Management plans for national and large forests. Control and revision of management plans. Index of sources. Index of subjects.

Note: The chief distinctive feature of this text is its presentation of the principles of forestry from the standpoint of American conditions, where such factors as higher labor costs and lower product costs make applicable some of the principles and techniques developed in Europe. Such problems as the determination of "best" plan of rotation are discussed against the historical background and the economic, technical, and administrative factors in American forestry. As the title indicates, the book is about management. Though problems of taxation, logging, protection, etc., are noted as closely influencing the execution of management plans, they are not developed. Both European and United States of America literature is included in the lists of literature references. One of the authors is college teacher of forestry and is on the staff of a large paper company and one is staff member of the United States Department of Agriculture.

PRESTON, JOHN FREDERICK

Farm wood crops. New York McGraw Hill Book Company Inc., 1949 302 p. illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) \$4.50 2824

Contents: Introduction. National aspects of farm woodlands in the United States. Practical value of woodlands in the farm business. Other farm woodland values. Problems of forestry on the farm. American woodlands in general. Farm planning involving the woodland. Description of farm woodlands. Practices on farm woodlands. Establishment of new woodlands. Tools and equipment. Building. Caring woodlands. Appendixes. References in the text. Bibliography. Glossary. Index.

Note: This book is concerned primarily with the principles of handling farm woodlands as branches of general farming and accordingly with the actual techniques of forestry it is simplified entirely. The book of farm forestry intended both as text for students and as technical guide for farmers wishing to develop farm woodlands. It may also be useful to conservationists who wish to show farmers the financial and other advantages of farm woodlands.

SHIRLEY HARDY LOMAX

Forestry and its career opportunities. New York McGraw Hill Book Company Inc., 1952 492 p. illus. 24 cm. (The American forestry series, Henry J. Vaux, consulting editor) \$6.50. 2825

Contents: The meaning of forestry. Forestry throughout the ages. The development of forestry in the United States. Forest regions. Protecting forests. Forest care and use. Harvesting timber crops. Lumber manufacture and sale. Wood, its nature, and uses. Wood chemistry paper, and plastics. Secondary forest products. Wildlife and range management. Forests and recreation. Protection and use of woodlands. The business of forestry. Social benefits of forestry. World and national forest resources. Recent progress and program. Proposed program of forestry. The problems of forestry. Employment in forestry. Forest employment by regions and fields. Education in forestry. Research in forestry. Administration in forestry. Tools and methods in forestry. Index.

Note: A survey book that presents pictures of contemporary forestry in relation to the national and world economy and also forestry in relation to the science and technique of forestry. It is addressed particularly to young people who are thinking of adapting forestry to their career. Its scope is wide enough to make it useful to all general readers and others in need of general information on forestry. The author is Dean of the College of Forestry of Syracuse University.

SOCIETY OF AMERICAN FORESTERS

Forestry terminology. A glossary of technical terms used in forestry. Original edition compiled and edited by Committee on Forestry Terminology, Ralph C. Hawley chairman. Revised edition compiled and edited by Committee on Forestry Terminology, Edward N. Munnis, chairman. Washington D C Society of American Foresters 1950. 93 p. 26 cm. \$3.00. 2826

Note: (3111) An alphabetical listing, with definitions, of words and terms used by foresters. The scope of the contents is shown by the names of the ten subcommittees of the Committee on Forestry Terminology responsible for the publication: Forest anatomy; Forest fires; Forest pathology; Lumbering and wood using industries; Forest management; Forest measurement; Range management; Recreation and wildlife; Silviculture; Wood technology; These subcommittees decided on terms to be included and excluded and were responsible for the drafting of the definitions. Some words have been included which were omitted from the 1944 edition, added definitions have been given for many terms, and in certain cases definitions have been rewritten. A total of 2489 words and terms are defined, made from which the vocabulary contains many cross references.

SOCIETY OF AMERICAN FORESTERS COMMITTEE ON HISTORY OF FORESTRY

Fifty years of forestry in the U S A. Edited by Robert K. Winters. Washington Society of American Foresters, 1950 385 p. 24 cm. \$4.00 2827

Contents: The first half century, by Robert K. Winters. Forest protection, by H. T. Gilchrist. Silviculture, by F. S. Robert. Forest management, by H. H. Chittenden. Forest utilization, by Nelson C. Brown. Forest economics, by L. A. Bockheim. Forest wildlife management, by Warren W. Chittenden. Forest education, by Edward Frank. U. S. Forest Service, by Lynn F. Wain. U. S. Department of the Interior, by John F. Shinnick. Other Federal agencies, by S. Elmer Hutchinson. State forestry, by Joseph S. Ellick. Industrial forestry, by W. B. Gouley. Farm forestry, by Joseph F. Kayser. The Society of American Foresters, by Shirley W. Allen. Forestry and trade associations dealing with forestry, by Charles A. Gifford. Education in professional forestry, by Ralph S. Bennett. Forest research, by Samuel T. Dimes. American and world forestry, by S. S. Shaw. Appendixes. Literature cited. Index.

Note: The major aspects of the development of forestry in the United States of America are covered in this sponsored work. Considerable attention is paid to the enactment of legislation, the growth of government agencies, and the development of forestry as a profession. Apparently because of space restrictions many of the chapters are little more than volumes, but important data are given and outstanding men and associations are named. The bibliography are not comprehensive but are limited more or less to the publications referred to by the various authors in their papers.

SPURD, STEPHEN HOPKINS

Forest inventory. New York Ronald Press Company 1952 476 p. illus. 24 cm. \$8.50 2828

Contents: Part I, Forest measurement: Tree measurement. Measurement of trees and stands on aerial photographs. Sample plots. Part II, Volume estimation. Tree-volume computation. Theory of tree-volume estimation. Methods of volume table construction. Total cubic-foot volume. Factors affecting total cubic-foot volume. Merchantable cubic-foot tree volume. Board-foot tree volume. Tree-volume tables for use with aerial photographs. Direct estimation of stand volume. Part III, Growth estimation. The growth of trees and stands. Continuous inventory. Forest analysis. Stand table projection. Yield tables. Growth tables. Density. SRA. Growth correlation. The two-way method of predicting growth. Part IV, Sampling and inventory design: Theory of sampling. Sampling applied to forest inventories. Ground surveys. Aerial photographic surveys. Combined photographs and ground surveys. Aerial photostereos. Large-scale European and American surveys. Bibliography. Index.

Note: The increasing use of aerial photography is determining not only the kind of forests in forest area but also the way for the volume of harvestable timber has proposed the way for the

WACKERMAN, ALBERT EDWARD

Harvesting timber crops. New York: Mc Graw-Hill Book Company Inc. 1949. 437 p. Illus. 24 cm. (The American forestry series, Walter Mulford, consulting editor) \$6.00

2832

Contents: Introduction. Part I, Considerations preliminary to actual harvesting: Timber crops—the goal of forestry. The development of forest industries in America. The origins of modern timber harvesting methods. Planning the timber harvest. Woods labor. Part II, Preparation of forest for removal from the forest: Selection of trees to cut. The felling operation. Bucking felled trees. Hauling, chipping, and piling. Tools used in felling, bucking, and piling. Part III, Movement of products from the forest: Bundling products in the forest. Skidding forest products. Loading forest products. Transportation of products from the forest. Part IV Organization and control of harvesting operations: Movement of forest products. Organization of harvesting operations. Costs and records. Regional harvesting practices. The Northeast, by F. C. Simpson. The Lake states, by George Bealish. The western pine region, by T. J. Orr, Jr. The Douglas fir region, by W. D. Engelman. Colorado redwood, by Kenneth Fitch. Southern hardwoods, by E. R. Linn. The southern pine region, by W. C. Hamrick. Selected references. Index.

Note: A well-organized text which is designed for college students of forestry and practical foresters. Emphasis is on the forestry aspects rather than on the engineering aspects of harvesting, although the third part of the book dealing with the movement of products from the forest necessarily covers certain of the engineering phases of the operations. A history of the volume in the series on regional harvesting practices written by regional authorities on timber harvesting in different parts of the United States.

WESTVELD, RUTHFORD HENRY

Applied silviculture in the United States. Second edition. New York: John Wiley & Sons Inc., 1949. 590 p. Illus. 24 cm. \$6.00.

2833

Contents: Northeast spruce-hardwood region. New England white pine region. Oak region. Allegheny hardwood-oak-hemlock region. Southern Appalachian region. Scrubland pine region. Southern redwood hardwood region. Central hardwood region. Lake States region. Douglas fir region. Northern Rocky Mountains region. Lumber pine region. Southern ponderosa pine region. Colorado pine region. Northwest ponderosa pine region. Black Hills ponderosa pine region. Redwood region. Southwestern Alaska. Appendix: Common names of trees and their scientific equivalents. Common names of insects and their scientific equivalents. Common names of diseases and some of their causal agents with their scientific equivalents. Author Index. Subject Index.

Note: (1114) A textbook on the application of silviculture in the 18 chief forest regions of the United States. It presents the fundamental principles of the ecology and economics of each of the forest regions with a view to giving the student a broad outlook of silvicultural problems. The book may also be useful as a reference book for the practitioner especially since it contains at the close of each chapter a comprehensive list of references. The revised edition takes account of advances in silviculture since 1939. In the handling of data on prices, costs, and profits the author has, wherever possible, eliminated references to dollars and substituted maximums of time or ratios to show relative value. Other changes include those made to conform with revised lists of tree names and forest-type classifications and additions to the bibliography so as to include references to publications issued 1939-1949.

WESTVELD, RUTHFORD HENRY, AND RALPH H. PECK

Forestry in farm management, by R. H. Westveld and the late Ralph H. Peck. Second edition, revised by R. H. Westveld. New York: John Wiley & Sons Inc. 1951. 340 p. Illus. 24 cm. \$5.00

2834

Contents (abridged): Forest trees in balanced agriculture. Overlying farm-tree crops. How to improve and perpetuate existing farm forests. How to establish new farm forests. Measuring volume and growth of farm forests. Making trees into the most valuable wood products. Marketing farm-forest products. Management of farm forests for special products. How farm forests may aid wildlife. Appendix. Index.

Note: (1115) The value and maintenance of forests to farmers, the methods of handling them, and the means of making them real farm assets are set forth in this book. It is divided into two parts, the first giving an account of the fundamental principles of modern farm forestry the second (the appendix) presenting certain basic information such as log and volume tables. The second edition has been brought up to date and expanded and in some respects rearranged. It discusses the new equipment and the new techniques of the decade between the first edition and the second edition, the most notable being the power saw and the two-chaining machines which have reduced both the amount of labor needed and the cost of harvesting and piling trees. The references at the end of the chapters have been revised. A new chapter has been added on the public and private aid available to farm-forest owners in the United States. Persons concerned with forests on farms, whether as farmers or county agricultural agents or teachers of vocational agriculture or students in agricultural colleges, find this book of basic value.

FOREST PRODUCTS

BROWN HARRY PHILIPS, AND OTHERS

Textbook of wood technology By H. P. Brown, A. J. Panshin, and C. C. Forsyth. Formerly published under the title, Commercial timbers of the United States. New York McGraw Hill Book Company Inc. 1949-52 2 v 23 cm. (The American forestry series, Walter Mulford, consulting editor) Vol. 1 \$7 50 Vol. II, \$10 00 2835

Contents: Volume I. Structure, Identification, Defects, and uses of the commercial woods of the United States: The plant origin of wood. The tree. The gross features of wood of value in Identification. The woody plant cell. The cambia of trees. The anatomic structure of coniferous woods. The anatomic structure of porous woods. Variable quality of wood within tree-species. Fibers in wood. Defects in wood. Natural durability of wood. Glossary Index. Volume II. The physical, mechanical, and chemical properties of the commercial woods of the United States: Part I. The physical properties of wood Density and specific gravity Wood in relation to moisture. Wood in relation to heat. Wood in relation to sound, light, and electricity The bending and splitting of wood. Part II. The mechanical properties of wood Mechanics of short woods columns. The mechanics of wooden beams. The mechanics of wooden beam-columns in simple wooden beams subjected to transverse loading. The mechanics of wooden beam-columns analyzed with respect to wooden beams and members. Stresses in wooden columns up to the proportional limit. Stresses in wooden beams and columns beyond the proportional limit. Standard testing procedures for determining the mechanical properties of wood Working stresses for wood. Variation in the strength properties of wood. Strength properties of laminated wooden beams and columns. Strength properties and fire resistance of wood-steel construction. Strength properties of plywood. Bending power of timber fasteners. Nailing power of timber fasteners—timber connection. Stresses in framed structures. Part III. The chemical properties of wood. The chemical components of wood. Effect of chemical treatments on wood. Thermal reactions of wood and its decomposition by biological agents. Index.

Note: (5117) In this revision of an earlier work it has been the author's purpose "to bring together all available worthwhile literature on the commercial timbers of the United States. The work is used as text by college students of forestry and as reference tool by engineers, architects, and others requiring knowledge of the structure and characteristics of wood. Volume one retains the general arrangement and scope of the previous work, but the former sections on durability and defects of wood have been enlarged to form five new chapters. Volume two is entirely new and has been added to achieve the above-stated comprehensive aim.

BROWN NELSON COURTLANDT

Forest products the harvesting processing, and marketing of materials other than lumber including the principal derivatives, extractives, and incidental products in the United States and Canada. New York John Wiley & Sons Inc. 1950 399 p illus. 21 cm. \$5.50 2836

Contents (abbreviated): Part I. Introduction, economics, and general considerations. Relative importance of principal forest products. Technical properties in relation to uses. Decreasing use of special products. Farm woodlands as sources of forest products. Principal developments and advances made in recent years. Part II. Construction materials: Veneers and plywood. Cross ties. Shingles and shakes. Part III. Chemically derived products: Wood pulp and

its products. Wood-distillation products. Rubber. Maple sugar and sirup. Part IV. Wood containers. Part V. Mechanically reduced products. Enricher. Wood flour. Wood disinfection. Part VI. Wood as fuel. Part VII. Miscellaneous products: Bark (other than for tannin). Christmas trees and decorations. Wild fruits, edible parts, and tree seeds. Glossary of some terms as used with forest products. Bibliography of forest products. Index.

Note: (5110) The ancestry of this book goes back to the author's *Forest products* which appeared in 1919 and was revised and published in second edition in 1927. In 1937 the book was again revised and published under the title of *Timber products*. Now the original title has been restored. The book reviews timbers and reference book on the harvesting, processing, and uses of forest products other than sawn lumber. In the present edition the economic data have been revised and good share of the descriptive text has been completely rewritten. Also there are discussions of many new topics, such as sandwich type of wall panels, compressed wood, and insulating wool from tree bark. As in earlier editions, minor forest products, such as spruce gum and Spanish moss, are covered as well as major products.

LARSON, AGNES MATHILDA

History of the white pine industry in Minnesota. Minneapolis Minn. University of Minnesota Press 1949 432 p. illus. 23 cm. \$7 50 2837

Contents: Minnesota's forest treasure. The lumber industry comes to the Upper Mississippi valley. The home market stimulates the mills at St. Anthony and Wausau, 1850-1870. The plantations of the St. Croix delta become the property of lumbermen. Logging in the St. Croix forests. Rifting and selling downstream. Railroads broaden the market for the white pine of the Upper Mississippi, 1870-1890. Lumber and logs on the Mississippi above 1870. Growth of sawmills in Minnesota, 1870-1890. Logging and driving, 1870-1890. Life in the woods. The derivative sawmills are added. The lumber industry in Minnesota reaches its height, 1890-1904. The Duluth district meets its late pine counterpart. The plantations of northern Minnesota become private property. The operation of seasonal head laws in the planned area. The operation of state laws in the unplanned area. The new age in logging and sawing. Marketing and prices, especially after 1890. The white pine in the building of the state. Index.

Note: A mid-scale history based upon consultation and study of original company records and interviews with persons formerly active in an extensive regional industry. The story is told in detail of the cooperation of the promoters and managers of little and big businesses and the lumberjacks and other workers in lumbering, with the help of tools and machines and rivers and lakes, felled the trees, manufactured the lumber, and sent it to market. A section of 16 pages of illustrations includes reproductions of many original photographs of loggers at work.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Charcoal production and uses. New Haven, Conn. Northeastern Wood Utilization Council, Inc., 1952 101 p illus. 23 cm. (Its bulletin no. 37) Paper \$2 00. 2838

Contents: The physical and chemical properties of commercial charcoal in relation to industrial use, by C. A. Shuler and H. Friedlander. Small rectangular charcoal kilns, by H. W. Hirsch. Charcoal production in steel drums, by H. L. Keldner. The gas-thermo carbonization of wood: SIFC process, by A. Lamberton. History and present status of the industry: continuous carbonization, the Matheson report, by D. F. Oakes. Residue like gasification, by D. F. Oakes. Domestic uses and distribution, by C. E. Kitchin. Industrial uses, by R. F. Kelly. Briquetting of charcoal, by R. S. Allen. Active carbon, by J. W. Hester.

Note: A collection of original papers presented at conference held in cooperation with the University of New Hampshire in Durham, New Hampshire in September 1951. Each paper in short technical discussion of some aspect of the manufacture or use of wood charcoal. Two of the papers deal with charcoal production in small portable kilns.

NORTHEASTERN WOOD UTILIZATION COUNCIL, INC.

The chemistry and utilization of bark. Report of conference at Cambridge, Mass., September 17 1948 New Haven Conn. Northeastern Wood Utilization Council, Inc. 1949 133 p. illus. 23 cm. (Its bulletin no. 25) Paper \$3.00 2839

Contents: Estimates of bark supply in the Northeast, by J. C. Bartz and F. C. Hennessey. The chemical composition of bark, by R. F. Krich. Research on bark at McGill, by V. D. Harwood and C. B. Purvis. The development on bark problems by Weyssenhauer, by W. G. Van Buren. Structural boards from eastern cedar and western red cedar bark, by H. Schwartz. The domestic vegetable tannin situation, by R. M. Laker and P. O'Flaherty. Tannins from northeastern barks, by J. S. Rogers. The possible use of bark in pulp, by R. Wolf. The use of bark for paper de-liming, by R. S. Jones. Improvement of bark burning methods through the use of bark driers, by J. H. Freider. The drying of bark, preliminary report by Northeastern Wood Utilization Council.

Note: This pamphlet contains original papers presented at the conference named in its title. All of the papers are technical discussions bearing on established or potential uses of tree bark.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Chipped wood production and uses. New Haven, Conn. Northeastern Wood Utilization Council, Inc. 1951 135 p. illus. 23 cm. (Its bulletin no. 33) Paper \$2.00 2840

Contents: Wood chips and burning, by A. C. McIntyre. Possibilities of wood chipping in forest management, by A. Karpf. Secondary chippers for processing low-quality and waste wood, by J. T. Morgan. Portable wood-chipping equipment, by R. W. Peters. A pilot study of the use of light portable wood chippers, by R. H. Tamm. Fuel discussion. A. Branch disposal. Land clearing, by R. A. McKinnis. Power saws, by L. M. Miller. Pulwood operations, by C. R. Shoverman. B. Use for chipped wood: Mulch for berries, by V. G. Shink and R. P. Christopher. Soil amendment—discussion of wood chips in soil, by M. Solomon. Wood chips in soil amendment, by H. A. Lund. Material for compost, by R. C. Schen. Burning—wood chips as bedding material for dairy cows, by R. W. Shoverman. Wood chips as bedding, by W. Fritzer. Pulwood, by J. S. Ricci. Rooking—The increasing soft industry in the Northeast, by C. R. Lockard and C. E. Hirschfeld. Wood chips for use in making soil amendments, by F. T. Rishoff. Whiteboard, by R. S. Arice. Fuel, by R. C. Miller. Appendix. Index.

Note: A collection of short papers that were originally presented at discussion conferences held at Marlboro College, Marlboro, Vermont. The papers are short and only a few of them are accompanied by literature references. However each one contains useful information bearing on established or potential uses of chipped wood made by grinding or chipping wood wastes obtained in manufacturing or land-clearing operations.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wallboard production and uses. Report of conference at Cambridge, Mass. September 16, 1949 New Haven, Conn. Northeastern Wood Utilization Council, Inc., 1950 183 p. illus. 23 cm. (Its bulletin no. 31) Paper \$4.00. 2841

Contents (abridged): Wood waste supply in New England, by R. S. Sewell. Demand for wallboard from builders' standpoint, by J. A. Nickerson. Preparation and characteristics of fiber pulp for hardboard, by A. Asplund. The kiln and shingle processes for wallboard manufacture, by F. Marple. Ranks headed boards from wood waste, by G. Wynn. Wallboard from wood waste without resins by dry process, by D. F. Othmer and L. G. Rickard. Durable light weight precast concrete, by J. D. Dale. Variables affecting the properties of wood waste siding, by T. W. Sears, Jr. Ranks headed wood waste panels, by T. H. Vanzant. Development of plastered products, by R. A. Campbell. Production of wood waste boards by continuous process, by W. J. Flackham. Wallboard, by W. C. Smith. Equipment for wallboard manufacture, by H. D. Thwait. The modern combination insulation hardboard factory, by H. K. Linsell. Summary and conclusions, by R. S. Arice. Index.

Note: A collection of original papers written for the conference named in the book's title. Most of the papers contain explicit descriptions of the manufacture of particular products classified as wallboard. Some of them contain data on strength and other engineering properties and some contain economic data. Only wallboards in which wood is an ingredient are discussed. The majority of authors are associated with United States manufacturing companies, but some of them are nationals of other countries.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wood fuel. Report of conference at Philadelphia, May 10 1951 New Haven, Conn. Northeastern Wood Utilization Council, Inc. 1951 77 p. illus. 23 cm. (Its bulletin no. 35) Paper \$3.00 2842

Contents: The world wood fuel situation, by H. I. Balch. Wood fuel in national emergency by R. L. Hennessey. Characteristics of wood as fuel, by R. F. H. Miller. Wood fuel values. A. Rich wood. Harvesting wood in sick farms, by F. C. Hennessey. B. Chipped wood: Source and availability of chipped wood as fuel, by R. L. Alexander. Use of chips in gravity feed stoves, by J. W. Allen. Sprayer-sucker firing of wood and coal in multiple feed furnaces, by R. C. Miller and G. K. Hennessey. C. Pelletized pellets from sawdust, bark and other wastes, by W. W. Latta.

Note: A collection of short technical papers on various aspects of the use of wood as fuel. The emphasis is on the use of waste wood in chipped or briquetted form. Several of the authors pay special attention to the economic problem created by the cheap cost of hand labor in wood gathering.

NORTHEASTERN WOOD UTILIZATION COUNCIL

Wood products for fertilizer Bulletin number 32 June, 1950 New Haven, Connecticut Northeastern Wood Utilization Council, 1950 53 p. illus. 23 cm. Paper \$1 00. 2843

Contents: Fertilizer requirements of the Northeast, by J. A. Clucka. Wood values as fertilizer, by H. A. Lund. The use of sawdust, shavings and superphosphates with dairy manure, by A. R. Miley. Comparisons of sawdust and wheat straw for bedding, by J. W. White. The utilization of waste bark, by R. G. Fisher and J. Chen. Action of soil bacteria on wood products, by C. Thom. The use of lignin in potato fertilizer, by R. Don and others. Research on lignin as soil builder, by R. S. Arice.

Note: (2156*) A review of collection of papers which were presented originally at conference held in 1943 and published in pamphlet form the same year. The material is based largely on investigations conducted at state agricultural experiment stations. In this edition new developments are reported and paper on the utilization of bark has been added. Two papers on lignin, printed in the first edition, have been omitted.

PANSHIN ALEXIS JOHN AND OTHERS

Forest products their sources, production, and utilization. By A. J. Panshin E. S. Harrar W. J. Baker and P. H. Proctor New York: McGraw Hill Book Company Inc.,

1950 549 p illus. 24 cm. (The American forestry series Walter Mulford, consulting editor) \$6.50 2844

Contents: Part I, Economics of forest utilization. Timber resources and their importance in the economy of the United States. Wood residues and the related problems of wood-utilization research. The relation of wood properties to wood utilization. Part II, Wood products: Round timbers. Mill timbers. Railroad ties. Wood furniture. Yarns and plywood. Wood containers. Shingles and shakes. Wood glue. Sawdust and shavings. Wood fuel. Minor wood products. Part III, Chemically derived products from wood. Pulp and paper. Thermal- and non-thermal-treated materials. Cellulose elements

and film. Carbonization and destructive distillation of wood. Wood modification. Part IV, Derived and miscellaneous forest products: Methyl alcohol, maple syrup and sugar. Tannins and dyes. Wood in the plastics industry. Minor forest products. Index.

Note: A college textbook which is useful also as an elementary reference book in institutional and personal libraries. The first part comprises only 11 pages. The rest of the space is devoted to specific descriptions of forest products which are commonly manufactured in the United States of America or are imports of economic importance. Individual products are described in adequate detail and the methods of manufacturing each one are also described. Flow charts are used frequently to diagram processes, and illustrations are included to show special machines and techniques. Selected literature references are included.

ADDENDA

ALLEN, JAMES H., editor

Strabismus ophthalmic symposium (1)
With 181 illustrations. St. Louis The C. V.
Mosby Company 1950. 476 p. illus. 26 cm.
\$10.50 2845

Contents: The anatomy of the extrinsic muscles of the eye, by W. H. Fick. The voluntary mechanism for eye movements, by F. H. Adler. The involuntary or reflex mechanism, by F. H. Adler. General physiology of the ocular muscles, by F. H. Adler. The sensory physiology of binocular vision, by K. C. Rosen. Normal and anomalous correspondence, by H. M. Burian. Classification of ocular movements—ophthalmokinetic and ophthalmokinetic apparatus, by H. M. Burian. Terminology with extended comments on the position of rest and on fixation, by W. B. Lancaster. Etiology of heterophoria and heterotropia, by H. M. Burian. Etiology of heterotropia and heterophoria, by R. G. Scobee. Congenital structural muscle anomalies, by H. W. Brown. Clinical applications of neurology, by G. P. Gabor. Screen cover test, by H. W. Brown. Measurement of deviation, by W. B. Lancaster. Strain and use of ophthalmic prism, by G. P. Gabor. The use of atropine in the treatment of muscle defects, by G. P. Gabor. An evaluation of the phoria, by R. G. Scobee. The management of convergent strabismus, by F. D. Costenbader. The physiology and management of divergent strabismus, by F. D. Costenbader. Factors in the cure of squint, by F. D. Costenbader. Which muscle should be attached in muscle surgery, by R. G. Scobee. Surgical management of convergent strabismus, by C. B. O'Brien. Surgical treatment of convergent divergent strabismus, by G. S. Lee and C. B. O'Brien. Surgery of the oblique muscles, by H. W. Brown. Factors underestimated, factors overestimated, and comments on classification, by W. B. Lancaster. Document. Index.

Note: A book planned as a specialist medical college course at the postgraduate level. Although some material was reprinted from such medical journals as the *Archives of Ophthalmology*, the papers are for the most part original. All are accompanied by literature references.

INORGANIC SYNTHESIS. Volume III. Editor in chief Ludwig F. Audrieth. Associate editors John C. Ballar jr. and others. Consultant on nomenclature and indexing Janet D. Scott. Advisory board Arthur A. Blanchard, W. C. Johnson and Raymond E. Kirk. New York McGraw Hill Book Company Inc., 1950 230 p. illus. 23 cm. \$4.50 2846

Note: (1951) The present volume of this important series contains 850 new syntheses. Typical substances are sodium peroxide, β -keto acids, basic hydrolysis reagents and products, boron chloride and trioxide, carbon tetrachloride, vinylchloride, methyl peroxide, trioxide, hydroxybenzoinic acids, sodium pyrophosphate, ammonium metavanadate, sodium (iv) oxychloride, lithium acid, ammonium hexafluorophosphate, ethylenediamine, rhodium (iii) oxide, and selenium (iv) (iv) chloride. Each synthesis has been selected by a board of editors comprised of eminent American chemists, and has been checked by one or two chemists other than the author(s). For each substance there are brief general discussions, detailed descriptions of the laboratory procedure, discussion of properties, and list of references to related literature. In some cases, there is a diagram of the laboratory apparatus.

JACOBSON C. A. compiler and editor
Encyclopedia of chemical reactions. Vol-
ume 11. New York Reinhold Publishing Cor-
poration, 1949 842 p. 24 cm. \$15.00 2847

Contents: Cobalt. Columbium. Copper. Dithyran. Dypyrroline. Erbium. Europium. Fluorine. Gadolinium. Gallium. Germanium. Gold. Hafnium. Holmium. Hydrogen. Iridium. Indium. Iridium. List of abstracts. Journals used by abstractors. Index to reagents (reagents). Index to reagents (names). Index to substances obtained (reagents). Index to substances obtained (names).

Volume IV New York Reinhold
Publishing Corporation 1951 790 p. 24 cm.
\$15.00 2848

Contents: Interference. Absorption. Ion. Lanthanum. Lead. Lithium. Manganese. Mercury. Methylhydrazine. Nitro-
dynamite. List of abstracts. Journals used by abstractors. Index to reagents (reagents). Index to reagents (names). Index to substances obtained.

Note: (1951-1952) Additional volumes in reference work which is designed to provide short statements of the isomeric reactions that have been reported in the literature. The arrangement is alphabetical, first by chemical elements, then under each element by constant and isomer. The information given for each reaction varies but always includes an expression of it in equation form and reference to the original source. Brief data on procedure, conditions, and the properties of products are given in many instances.

NEW YORK ACADEMY OF MEDICINE

Disorders of the circulatory system A
symposium presented at the twenty fourth
graduate fortnight of the New York Academy
of Medicine, October eighth to nineteenth,
1951 Edited by Robert L. Craig. New York
The Macmillan Company 1952 305 p. illus.
23 cm. \$5.50 2849

Contents: The role of the coronary veins in diseases of the
coronary system, by F. Kropf. Conduction in the heart
muscle fiber, by A. Baumgartner. Light microscopy and electron
microscopy, by A. Kallner. Diet and coronary vessels in athero-
sclerosis, by J. W. Gofman. Coronary disease—clinical-pathologic
correlations and physiology, by R. L. Levy. The clinical
significance of coronary heart disease, by R. L. Levy. The importance
of cardiac arrhythmias, by L. W. Katz. Pathologic physiology of
myocardial infarction and its surgical implications, by L. Decker. Surgery
of atherosclerotic coronary disease, by R. H. Wyllie. Surgical results in
coronary artery disease, by G. H. Hays. The
electrocardiographic effects of myocardial and pericardial injury, by
C. K. Kasper. Myocardial infarction and symptoms of heart failure, by R. A.
Barr. The mechanism and management of circulatory failure,
by W. D. Dill. The treatment of some bacterial infections of the
heart and pericardium, by T. H. Hensley. Humoral and vascular
control of blood vessels, by J. H. Page. Endocrine factors in
hypertension, by G. A. Perera. The medical management of acute
and chronic arterial occlusion, by A. W. Dwyer. The surgical
therapy of acute and chronic arterial occlusion, by J. W. Lord, Jr.
Circulatory responses to life situations, by E. Weil. List of contribu-
tors. Subjects of past fortnights, 1928-1951.

Note: The papers collected in this book were presented at the
academy annual in the last 20 years, and were part of a series
addressed to graduate postmen. The course included, besides
these lectures, panel discussions, hospital clinics, and scientific
exhibits. The lectures were given, for the most part, from the
facilities of leading medical schools in the City of New York and
elsewhere in the United States. Some of the authors described
developments and techniques not previously published and all
presented authoritative surveys of their special topics.

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